VALUATIONLAB
FINANCIAL ANALYSIS

KUROS BIOSCIENCES

FOCUS AREA: INNOVATIVE PRODUCTS FOR TISSUE REPAIR AND REGENERATION

KEY DATA			SIX: KURN
MARKET CAPITALIZATION (CHF MN)	137	**SHARE PRICE ON JUNE 27, 2016**	27
ENTERPRISE VALUE (CHF MN)	119	**RISK-ADJUSTED NPV PER SHARE** (CHF) ****	55
CASH (JUNE 30, 2016E) (CHF MN)	18	**UPSIDE/DOWNSIDE** (%)	104%
MONTHLY OPERATING EXPENSE (CHF MN)	0.4	**RISK PROFILE**	SPECULATIVE
CASH LIFE	2018	**SUCCESS PROBABILITY LEAD PROJECT**	80%
BREAK-EVEN (YEAR)	2022	**EMPLOYEES**	15
FOUNDED (YEAR)	2000	**LISTED** (YEAR)	2016

KEY PRODUCTS:	STATUS
- KUR-023 (DURAL MEMBRANE SEALANT) *	CE MARKING (EU)
- KUR-111 (BONE GRAFT SUBSTITUTE) **	PHASE IIB
- KUR-113 (BONE FRACTURE HEALING) **	PHASE IIB
- KUR-113 (SPINAL FUSION) **	PHASE I
- CYT003 (ONCOLOGY/HEPATITIS B) ***	PHASE I
- VLP-IGE (ANTI-IGE VACCINE) ***	PHASE I

MAJOR SHAREHOLDERS:	(%)
- BANQUE PICTET & CIE	11.1
- LIFE SCIENCE PARTNERS V COOPERATIEVE	9.5
- ECKENSTEIN-GEIGY-STIFTUNG	9.3
- EXECUTIVE MANAGEMENT	8.4
- FREE FLOAT	**91.6**
- AVERAGE DAILY VOLUME (30-DAYS)	6,105

UPCOMING CATALYSTS:	DATE
- KUR-023 - SUBMIT EU CE MARKING	~ END 2016
- KUR-111/113 - PREPARE PHASE III PROGRAM	2016/2017
- KUR-023 - EU LAUNCH	2017

ANALYST(S): BOB POOLER
BP@VALUATIONLAB.COM
+41 79 652 67 68

* MEDICAL DEVICE; ** ORTHOBIOLOGIC; *** IMMUNE MODULATION VACCINE; **** BASED ON DILUTED NUMBER OF SHARES TO RAISE FURTHER FUNDING FOR ORTHOBIOLOGICS
ESTIMATES AS OF 27 JUNE 2016 SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

Fit for Growth

KUR-023, the first product to reach the market in 2017

Kuros Biosciences focuses on tissue repair and regeneration, with the most advanced compounds targeting attractive market opportunities in surgical sealants and orthobiologics. Key products include: 1) KUR-023, a dural membrane sealant being prepared for CE marking in 2016 and EU launch in 2017; a clinical trial is planned to support US approval; 2) KUR-111, a bone graft substitute that is used in bone fractures that are treated surgically; and 3) KUR-113, for bone fracture healing and for spinal fusion surgery (preclinical completed). KUR-111 and KUR-113 (bone fracture healing) successfully completed phase IIb and are being prepared for phase III development. Cash is sufficient to bring KUR-023 to the EU and US market and prepare KUR-111 and KUR-113 for phase III development. Additional financing is needed to advance KUR-111 and KUR-113 through phase III development up to their next value inflection points. We derive a risk-adjusted NPV of CHF 55/share (assuming an 18% dilution to raise CHF 25 mn), with 17% of the value related to KUR-023, 37% to KUR-111, 39% to KUR-113, and 6% to cash. Kuros' risk profile is Speculative given the absence of product revenues, the necessity to secure funding on a timely basis, with a cash life until 2018.

Key catalysts:

1) **Filing CE marking dural sealant KUR-023 (~end 2016):** After submission around end 2016, EU approval and launch is expected in 2017. Our risk-adjusted NPV rises by CHF 0.60/share.
2) **Start US PMA clinical trial KUR-023 (2017):** Start spine trial to support PMA (premarket approval) application. Our risk-adjusted NPV rises by CHF 0.60/share
3) **EU approval and launch KUR-023 (2017):** Kuros is expected to sign on a distributor or commercialization partner for an expected 2017 launch. Our risk-adjusted NPV increases by CHF 0.60/share.

Strategy & Cash Position

Reverse merger with Cytos allows access to public markets to support growth

Kuros Biosciences is a Swiss biotechnology company based in Schlieren (Zurich), Switzerland that is focused on the development of novel biomaterials and bioactive biomaterial combination products in therapeutic areas covering sealants and orthobiologics, and was listed on the SIX Swiss Stock Exchange in January 2016. Kuros Biosciences is the result of a reverse merger between Cytos Biotechnology, a Swiss biotechnology company focused on immunovaccines with a SIX listing, and Kuros Biosurgery, a privately-held biotechnology company focused on tissue repair and regeneration. Kuros Biosurgery was founded in 2000 as a spin-off of the ETHZ (Eidgenoessische Technische Hochschule Zurich) with a proprietary technology platform developed from work carried out at the ETHZ, the University of Zurich, and at Caltech (California University of Technology). The Swiss listing provides the newly formed Kuros Biosciences access to the public financial markets to support growth of it attractive pipeline projects.

Key products target large market opportunities in sealants and orthobiologics

The company has developed a pipeline of clinical and preclinical programs at various stages of development and generated significant clinical data in a number of indications and applications in tissue repair and regeneration. The most advanced projects target sizeable market opportunities, such as surgical sealants and orthobiologics. These projects have met the primary endpoint in all the clinical trials in which they have been tested in over 400 patients. Kuros' key products include:

- **KUR-023,** a novel biomaterial designed to seal the dural membrane covering the brain and spinal cord after brain or spinal surgery. The product is designed to be used in addition to suturing to produce a watertight seal to reduce the risk of CSF (cerebrospinal fluid) leakage, a common complication, which can lead to potentially dangerous infections. KUR-023 has successfully completed a European clinical trial and is being prepared for CE marking. The EU launch is expected in 2017.
- **KUR-111,** a novel orthobiologic combination treatment for bone fractures where a bone graft substitute is needed, with comparable efficacy to gold standard autograft, without the need for an additional bone harvesting surgery. The compound successfully completed a phase II dose-finding trial in 183 patients with tibial plateau fractures that required fixation and grafting, and is in preparation for phase III development.
- **KUR-113,** a novel orthobiologic combination treatment for bone fracture healing where no bone graft is needed, and in spinal fusion surgery. The compound successfully completed a phase II dose-finding trial in 200 patients with acute open tibial shaft fractures. End of phase II talks are scheduled in 2016 to prepare for phase III development.

US surgical sealant market alone expected to cross USD 2 bn mark in 2017

Surgical sealants are used in many surgical procedures where leakages of body fluids or gases have to be minimized, such as the sealing of blood vessels, the gastrointestinal tract, lobes of the lung or of the dura mater surrounding the brain and spinal cord. The medical adhesives and sealant market in the US alone is predicted to reach more than

USD 2 bn per year by 2017. Kuros' most advanced sealant product candidate, KUR-023, is specifically designed to address the dural membrane sealant market.

A more than USD 2 bn market opportunity in bone graft substitutes

Orthobiologics, or bone healing products of novel biomaterials or bioactive biomaterial combination products, address bone repair, specifically fracture repair, through bone graft substitutes, and spinal fusion (growing bone across two vertebrae). The current bone graft substitute market, excluding autograft, is estimated at more than USD 2 bn per year. The potential replacement of autograft, by safe and effective bone graft substitutes significantly increases the total market opportunity, while reducing the need for additional bone harvesting surgery.

Legacy Cytos projects provide potential upside without any funding requirements

Kuros' development pipeline also includes legacy immune modulation collaborations stemming from Cytos' virus-like particle (VLP) technology platform. These will be continued through existing collaborations, in return for significant development milestone payments and royalties on future sales. Kuros will not invest any of its own funds in these collaborations, which include:

1. **Checkmate Pharmaceuticals collaboration (2015)**, an exclusive agreement in the field of oncology granting access to product candidate CYT003, its VLP platform and to technology related to oligonucleotide synthesis. Kuros may receive up to USD 90 mn in development milestones and up to double-digit royalties on sales.
2. **Arbutus Biopharma collaboration (2015)** an exclusive license agreement granting access to the VLP technology platform to develop treatments for hepatitis B and other viral infections. Kuros is eligible to up to USD 67 mn in development milestones or a maximum of USD 402 mn if one product in each product category is developed.
3. **Pfizer collaboration (2008)** an exclusive license agreement targeting anti-IgE (immunoglobulin E) VLP conjugate vaccines for treating diseases such as allergies. Kuros may receive up to CHF 150 mn in total in development milestones and manufacturing transfer fees next to up to double-digit royalties on sales.

Strategy is to become a leader in the field of tissue repair and regeneration

Kuros' aim is to become a leader in the field of tissue repair and regeneration. The company's strategy includes the following elements:

- **Focus on unmet medical need in tissue repair and regeneration**
  Although Kuros' technology platform has applicability in a number of applications, the company has focused on therapeutic areas of unmet medical need in tissue repair and regeneration, including sealants an orthobiologics. These are large growing markets where Kuros has a differentiated product offering with the potential to grab a sizeable market share, or even grow the market.
- **Demonstrate the medical benefit of its product candidates**
  To realize commercial success, Kuros' products have to demonstrate clinical efficacy and safety to gain regulatory approval. This generates differentiating data that clearly justifies the use of its products for the patient, the surgeon, and the payers, and sets its products apart from many in-market products.
- **Advance the development of its product candidates to market**
  It is critical to be able to develop and control the development pathway of the key products candidates all the way up to approval. This allows for more control over

the partnering, positioning and marketing of each of the products once they reach the market, and retain more of the value for shareholders.

- **Broaden the presence in chosen fields and broaden the product offering.** The tissue repair and regeneration field remains relatively fragmented, with many products based on various approaches, backed by variable scientific and clinical data. There is a distinct opportunity to bring together certain key technologies and approaches to enable Kuros to become a leader in certain key market segments. Kuros intends to opportunistically develop other programs, acquire additional product lines or acquire or combine with other businesses with a strategic fit.
- **Leverage the technology platform to expand the product offering.** Kuros intends to further exploit its technology platforms in developing other innovative products in tissue repair and regeneration. The technologies are tailorable and can be used to generate innovative products with different physical and biological properties that can address areas of significant unmet medical need.
- **Invest cash wisely and raise additional financing to advance the pipeline** Kuros has sufficient cash to bring dural membrane sealant KUR-023 to market and prepare the phase III program for KUR-111 and KUR-113. The conduct of phase III clinical trials and further development of other products will depend on additional financing, through commercial activities, corporate collaborations, equity or debt financing or other means.

More than CHF 200 mn raised since the creation of Kuros Biosurgery

Since inception as Kuros Biosurgery, the company has raised over CHF 200 mn, of which just over CHF 50 mn in several financing rounds. The most recent one occurred in 2015, prior to the listing on the SIX Swiss Stock Exchange in January 2016 through the reverse merger with Cytos Biotechnology. Kuros (Biosurgery) raised CHF 20.6 mn through a two-stepped financing round from a group of new and existing investors. Prime healthcare investors such as LifeCare Partners (Switzerland), Life Sciences Partners (Netherlands) and Omega Funds (US) joined in the most recent round, next to existing Swiss investors including VI Partners, Venture Incubator, and The Swiss Helvetia Fund.

MONEY RAISED	CHF MN
PRE-LISTING	> 200
SIX SWISS STOCK EXCHANGE LISTING (REVERSED MERGER WITH CYTOS BIOTECHNOLOGY)	0
TOTAL RAISED	**> 200**

ESTIMATES AS OF 27 JUNE 2016 — SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

Kuros has a history of high value partnerships with major players funding R&D

Next to raising funds from leading life science investors, Kuros has also received more than CHF 150 mn from corporate collaborations with the US health care company Baxter International, the Swiss medical device company Synthes (sold to Johnson & Johnson in 2012 for USD 19.7 bn and now part of their DePuy franchise), and others.

In 2005, Kuros granted Baxter exclusive worldwide rights to develop and commercialize a portfolio of hard and soft tissue-repair products based on Baxter's fibrin-based biomatrix, TISSEEL Fibrin Sealant, combined with Kuros' proprietary biologics and associated binding technology. The combination of these technologies led to Kuros entering the fast-growing orthobiologic market. Kuros regained rights from selected wound care candidates in 2010, and trauma and spine clinical candidates in 2012, due to a strategic portfolio re-prioritization at Baxter. As part of the agreement Baxter continued to fund selected Kuros' development projects through 2012.

The bulk of the money raised was used to:

- Build up the proprietary fibrin-based (TG-Hook) technology platform and proprietary synthetic-based technology platform.
- Bring KUR-023 (dural membrane sealant) up to CE marking thanks to a positive European trial in 41 cranial patients
- Complete a phase IIb dose-finding trial of KUR-111 (bone graft substitute) in 183 patients with tibial plateau fractures that required fixation and grafting
- Complete a phase IIb dose-finding trial of KUR-113 (bone fracture healing) in 200 patients with acute open tibial shaft fractures
- Complete a phase IIa proof-of-concept trial of KUR-212 in burn wound patients (non-core indication until sufficient funds secured)

Reverse merger with Cytos provides access to the public financial market

After the termination of the Baxter collaboration in 2012, Kuros embarked on a process to find an alternative way to advance its promising pipeline projects. Kuros approached a number of medical device players and pharmaceutical companies that could be interested in the type of products that Kuros were developing. The medical device players operating in the space were interested in Kuros' products but did not generally have the R&D budgets or drug development capabilities to develop pharmaceutical agents. The pharmaceutical companies had the funds and capabilities to do so but generally did not have access to the users and payers in the medical device space. It became clear to Kuros that the most sensible strategy was then to secure the funds to move the programs forward alone and then seek commercialization partners and/or distributors once the products had completed clinical development. At the same time, the financial markets were emerging from their doldrums, particularly in the healthcare space, and accessing capital to progress the promising programs Kuros has was becoming more and more realistic. This led to a significant private round in 2015 and then a reverse merger with Cytos in December 2015, which was successfully closed on January 20th, 2016. Kuros now has access to the public financial markets to fund its development plans, as an alternative to corporate collaborations or debt financing.

Cash life until 2018 - more funds needed to develop orthobiologics up to launch

We estimate that Kuros has approximately CHF 18 mn in cash (June 30th, 2016E) thanks to the recent CHF 20.6 mn financing round (by Kuros Biosurgery) in 2015, and no debt after the mandatory conversion of bonds and settlement with convertible loan holders (from Cytos Biotechnology).

Kuros expects the current cash position to be sufficient to:

- Obtain the CE mark for KUR-023 (dural membrane sealant) and launch in Europe
- Conduct a second clinical trial for KUR-023 in the US to support a PMA (premarket approval) application to obtain US approval
- Prepare KUR-111 for pivotal phase III development as a bone fracture substitute
- Prepare KUR-113 for pivotal phase III development as a bone fracture healing agent
- Prepare KUR-113 for phase IIb development for spinal fusion

Kuros' has nearly doubled its staff to 15 people, who have the knowledge, network and experience in the sealant and orthobiologics field to successfully carry out the company's development plans. However, additional funds will be needed to bring KUR-111 and KUR-

113 successfully to market. Legacy Cytos collaborations will be fully funded by the partners and therefore represent a substantial call option on successful development (not in our forecasts).

Our assumptions point to an additional funding need of approximately CHF 25 mn

In the table below we provide an overview of the R&D expenditure we believe is needed to advance Kuros' dural membrane sealant and key orthobiologic pipeline products to market in their targeted indications, and when these costs will occur.

ASSUMED R&D EXPENDITURE

COMPOUND	INDICATION	PHASE	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	TOTAL
KUR-023	**DURAL MEMBRANE SEALANT**	CE MARKING (EU)	1									1
		PMA CRANIAL TRIAL (US)		4								4
		PMA FILING (US)			1							1
		SPINAL TRIAL (US)					4	1				4
TOTAL (CHF MN)			1	4	1	0	4	1	0	0	0	**9**
KUR-111	**BONE GRAFT SUBSTITUTE**	PREPARATION PHASE III	1	3	3							6
		PHASE III (EU)				5	5					10
		PHASE III (US)				5	5					10
		FILING (EU)						1				1
		FILING (US)						1				1
TOTAL (CHF MN)			1	3	3	10	10	2	0	0	0	**28**
KUR-113	**BONE FRACTURE HEALING**	PREPARATION PHASE III	1	1	1							3
		PHASE III (EU)				5	5					10
		PHASE III (US)				5	5					10
		FILING (EU)						1				1
		FILING (US)						1				1
TOTAL (CHF MN)			1	1	1	10	10	2	0	0	0	**25**
KUR-113	**SPINAL FUSION SURGERY**	PREPARATION PHASE IIB		1	5							6
		PHASE IIB				10	5					15
		PHASE III (EU)						5	5			10
		PHASE III (US)						5	5			10
		FILING (EU)								1		1
		FILING (US)								1		1
TOTAL (CHF MN)			0	1	5	10	5	10	10	2	0	**43**
TOTAL R&D FUNDS REQUIRED			**2**	**8**	**9**	**30**	**29**	**15**	**10**	**2**		**104**

ESTIMATES AS OF 27 JUNE 2016 SOURCE: VALUATIONLAB ESTIMATES

A total of approximately CHF 104 mn is needed to fulfill all development plans. The current cash position of approximately CHF 18 mn is sufficient to bring KUR-023 to market (CHF 8.5 mn) and prepare the phase III development of KUR-111 and KUR-113 (CHF 10 mn), leaving a funding gap of approximately CHF 86 mn.

Therefore, we assume Kuros will out license both orthobiologics on successful pivotal trials in return for significant upfront, development and sales milestone payments and royalties on sales to bridge the funding gap. In the table below we provide an overview of our assumed partner milestone payments and when we expect them to occur.

ASSUMED PARTNER MILESTONES

COMPOUND	INDICATION	PHASE	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	TOTAL
KUR-023	**DURAL MEMBRANE SEALANT**	LAUNCH (EU)		5	5							10
		LAUNCH (US)					5		5			10
TOTAL (CHF MN)			0	5	5	0	5	0	5	0	0	**20**
KUR-111	**BONE GRAFT SUBSTITUTE**	PHASE III (EU)					15					15
		PHASE III (US)					15					15
		FILING/LAUNCH (EU)							10			10
		FILING/LAUNCH (US)							10			10
TOTAL (CHF MN)			0	0	0	0	30	0	20	0	0	**50**
KUR-113	**BONE FRACTURE HEALING**	PHASE III (EU)						15				15
		PHASE III (US)						15				15
		FILING/LAUNCH (EU)							10			10
		FILING/LAUNCH (US)							10			10
TOTAL (CHF MN)			0	0	0	0	0	30	20	0	0	**50**
KUR-113	**SPINAL FUSION SURGERY**	PHASE II										0
		PHASE III (EU)							15			15
		PHASE III (US)							15			15
		FILING/LAUNCH (EU)									10	10
		FILING/LAUNCH (US)									10	10
TOTAL (CHF MN)			0	0	0	0	0	0	30	0	20	**50**
TOTAL MILESTONES RECEIVED			**0**	**5**	**5**	**0**	**35**	**30**	**75**	**0**	**20**	**120**
NET R&D FUNDS REQUIRED			**2**	**3**	**4**	**30**	**-7**	**-16**	**-65**	**2**	**-20**	**84**

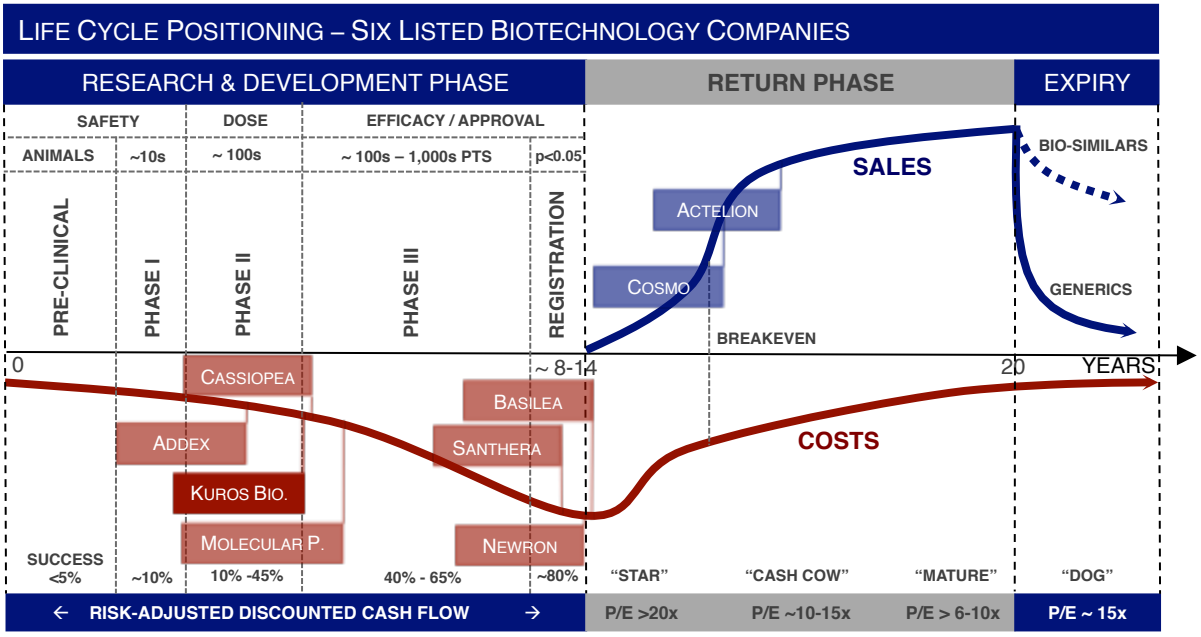
We assume KUR-023 will be approved and launched in Europe in 2017 and that Kuros will out license the European rights to a commercialization partner. We expect a CHF 5 mn milestone payment on approval in cranial surgery in 2017 followed by a CHF 5 mn milestone on approval in spinal surgery in 2018. We assume US approval of KUR-023 in 2020 assuming a US commercialization partner with similar milestone payments for cranial and spinal surgery approvals. Moreover, we conservatively assume Kuros will receive 30% royalties on sales, which will be used to help fund the company's development plans.

However, these royalties will not be sufficient to fund the phase III development of KUR-111 and KUR-113 in bone healing and the phase IIb development of KUR-113 in spine fusion surgery. We estimate the start of these trials will cost around CHF 30 mn in 2019 leaving a net funding gap of around CHF 25 mn, thanks to the CHF 10 mn in launch milestones expected to be received from the European KUR-023 commercialization partner. In 2020 CHF 29 mn will be required to fund the orthobiologic trials. We assume that these costs should be more than offset by and estimated CHF 35 mn in upfront milestone payments from US and European commercialization partners for KUR-111 and KUR-113 on positive phase III results, and US launch of KUR-023 in spine. From 2021 the company should be able to fully fund its development plans thanks to payments from its commercialization partners.

To finance the funding gap of approximately CHF 25 mn in 2019, Kuros could opt for equity or debt financing. In our risk-adjusted NPV calculation, we conservatively assume an equity financing of CHF 25 mn in 2016, leading to an 18% dilution based on the current market capitalization. Kuros could opt for several tranches, e.g. CHF 10 mn in 2016 and CHF 15 mn in 2017, on EU approval of KUR-023 at a potentially higher share price, to minimize dilution.

Life Cycle Positioning - Speculative

We consider an investment in Kuros as Speculative. The company has no products on the market, yet. The existing cash position is only sufficient to bring KUR-023 successfully to the market in the EU in 2017 and the US in 2020. Other key projects, such as KUR-111 and KUR-113, with substantially higher peak sales, are still years away from market launch with substantial development and approval risk. Moreover, development of these projects is largely dependent on Kuros to timely gain access to necessary funding through commercial activities, equity or debt financing or other means. The life cycle positioning of Kuros in the graph below is based on the development stage of its key orthobiologic products. These biological treatments follow the life cycle as presented below. Kuros' most advanced product, the dural membrane sealant KUR-023, is considered a medical device and follows a different life cycle than biologic and pharmaceutical compounds.



SOURCE: VALUATIONLAB

Valuation Overview

Risk-adjusted sum-of-parts NPV points to a fair value of CHF 55 per share

We derive a risk-adjusted NPV of CHF 55 per share, conservatively assuming an 18% share dilution to raise CHF 25 mn on the current market capitalization, with cash of CHF 3.50 per share (June 30th, 2016E) and overhead expenses of CHF 2.50 per share. We assume a WACC of 7.0% in our risk-adjusted NPV calculations (reflecting the low Swiss interest environment since the decoupling of the Swiss Franc/Euro peg in January 2015).

SUM OF PARTS

PRODUCT	INDICATION	PEAK SALES (CHF MN)	LAUNCH YEAR (EST)	* UNADJUSTED NPV/SHARE (CHF)	SUCCESS PROBABILITY	* RISK-ADJUSTED NPV/SHARE (CHF)	PERCENTAGE OF TOTAL
KUR-023	DURAL MEMBRANE SEALANT	118	2017	12.5	80%	**10.0**	17%
KUR-111	BONE GRAFT SUBSTITUTE	601	2022	41.1	52%	**21.4**	37%
KUR-113	BONE FRACTURE HEALING	337	2022	26.4	52%	**13.7**	24%
KUR-113	SPINAL FUSION GRAFTS	509	2024	31.1	28%	**8.7**	15%
VLP (ARBUTUS)	HEPATITIS B & VIRAL INFECTIONS	383	>2024	4.4			
CYT003/CPM-001 (CHECKMATE)	CANCER (E.G. MELANOMA)	400	>2024	3.6			
VLP-IGE (PFIZER)	ALLERGIES (E.G. ALLERGIC ASTHMA)	390	>2024	3.9			
CASH POSITION (JUNE 30, 2016E)		18		3.5		**3.5**	6%
TOTAL ASSETS				126.4		**57.3**	100%
OVERHEAD EXPENSES				-2.5		**-2.5**	
NPV/SHARE (CHF)				123.8		**55**	
SHARE PRICE ON JUNE 27, 2016						27	
PERCENTAGE UPSIDE / (DOWNSIDE)						104%	

* NOTE: PER SHARE DATA BASED ON DILUTED NUMBER OF SHARES TO RAISE CHF 25 MN

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB ESTIMATES

Kuros' valuation is currently based on the following key value drivers:

1) KUR-023 (dural membrane sealant) - Fair value of CHF 10 per share

We believe KUR-023 can reach peak sales of approximately CHF 100+ mn as an adjunct to suturing in brain and spinal surgery, with an expected EU launch in 2017 and a US launch in 2020. We assume peak penetration rates of up to 40% and a treatment price per kit of EUR 400 in Europe and USD 650 in the US. We calculate a risk-adjusted NPV of CHF 60 mn or CHF 10 per share for KUR-023, assuming a royalty rate of 30% (with up to CHF 20 mn upfront milestone payments), and a success rate of 80% (average of EU 90% (CE marking) and US 70% (PMA trial)).

2) KUR-111 (bone graft substitute) - Fair value of CHF 21.40 per share

We believe KUR-111 could achieve peak sales of around CHF 600 mn, as a bone graft substitute with a peak penetration rate of up to 10%. In our forecasts we assume Kuros will raise sufficient cash in 2016/2017 to fully develop KUR-111 up to phase III, leading to significant value creation, and then sign on a commercialization partner in return for attractive upfront and sales milestones (up to CHF 150 mn) with a 25% royalty rate on future sales. We assume phase III trials to start in 2019 with a potential launch in 2022 and at least 10 years market exclusivity from approval. Our risk-adjusted NPV amounts to CHF 128 mn, or CHF 21.40 per share assuming, a 52% success rate (80% probability to start phase III development with a 65% success rate).

3) KUR-113 (bone fracture healing) - Fair value of CHF 13.70 per share

We forecast peak sales of CHF 300+ mn for KUR-113 in bone fracture healing, where a bone graft is not used. Here too, we assume Kuros secures sufficient funding to develop KUR-113 up to phase III and then sign on a commercialization partner, with upfront and sales milestones reaching up to CHF 110 mn, and royalties on sales amounting to 25%. Phase III trials are expected to start in 2019 with a potential launch in 2022 and at least 10 years market exclusivity from approval. Our risk-adjusted NPV amounts to CHF 83 mn or

CHF 13.70 per share assuming the same 52% success rate as KUR-111.

4) KUR-113 (spinal fusion surgery) – Fair value of CHF 8.70 per share
A second major indication for Kuros' KUR-113 is spinal fusion surgery where a bone graft is required to enhance the fusion (growing together) of two individual vertebrae in the spine. Peak sales could easily reach CHF 500 mn. Our risk-adjusted NPV amounts to CHF 52 mn or CHF 8.70 per share, assuming a 28% success rate (80% probability to moving into phase IIb with a 35% success rate), and a similar commercialization agreement as in bone fracture healing. We assume phase IIb dose-finding trials to start in 2019 and first launches to occur in 2024.

No value contributed to early stage pipeline projects, yet
We have not accounted for legacy pipeline projects stemming from Cytos' immune modulation technology platform. Kuros will not invest any of its own funds in these projects, which will be fully developed and commercialized by its partners. These collaborations can be considered valuable call options on successful development.

Checkmate collaboration (CYT-003/CMP-001 in cancer)
In August 2015, Checkmate acquired exclusive access to Cytos' clinically validated product candidate CYT003 as well as its VLP platform and to technology related to oligonucleotide synthesis for multiple products in the field of oncology. Kuros may receive up to 90 mn development milestones and up to double-digit royalties on sales. The first melanoma patient was recently dosed in a phase Ib trial, already triggering a USD 1 mn milestone payment. Peak sales in melanoma alone, could easily reach CHF 400 mn.

Arbutus Biopharma collaboration (VLP platform in hepatitis B & viral infections)
In January 2015, Arbutus Biopharma (formerly OnCore Biopharma) was granted an exclusive license agreement to Cytos' clinically validated VLP (virus like particle) platform for the use in the treatment and prevention of hepatitis B infections and additional viral diseases other than influenza. For the first product in each six possible categories Kuros may receive up USD 67 mn in development milestones or a maximum USD 402 mn if one product in each product category is developed. Kuros is eligible of up to USD 120 mn in sales milestones and up to double-digit royalties on sales. Peak sales of a hepatitis B vaccine alone, could easily each CHF 350+ mn.

Pfizer collaboration (VLP-IgE in e.g. allergic asthma)
In August 2008, Cytos entered into an exclusive global research, option and license agreement with Pfizer Vaccines to research, develop, manufacture and commercialize novel vaccines for a defined number of human diseases using the VLP IgE (virus-like particle immunoglobulin E) technology platform. In 2013, the first patient was dosed in a phase I clinical trial with an anti-IgE vaccine. Kuros is entitled to CHF 150 mn in upfront and potential milestone payments as well as manufacturing technology transfer fees and up to double-digit royalties on sales. Peak sales of an anti-IgE vaccine for e.g. allergic asthma could easily reach CHF 350+ mn.

Sensitivities that can influence our valuation

Ability to fund key development projects: The key risk of Kuros' investment case relates to the successful completion of the targeted clinical trials to create shareholder value within the projected timelines. With a current cash position of approximately CHF 18 mn, Kuros does not have sufficient funds to develop all its targeted development projects up to partnering and commercialization. Additional funds will still be needed to complete the pivotal development of KUR-111 and KUR-113. Kuros will need to attract development and commercialization partners for these projects and/or seek funding through capital increases, which leads to dilution, debt financing, or pursue an M&A strategy.

Speed of funding: Next to attracting sufficient funds to successfully complete the development plans, the time needed to attract these funds will determine the speed and amount of value creation. Slower than expected funding pushes back development plans, thereby potentially reducing the effective patent life of each project that is delayed, impacting the total value.

Development and approval risk: The majority of Kuros' key projects are in the medium stages of development and therefore bear relatively favorable development and approval risk. The valuation of Kuros is currently based on four projects, the dural membrane sealant KUR-023 with an 80% success rate, KUR-111 (bone graft substitute) and KUR-113 (fracture healing), both with a 52% success rate having completed phase II, and KUR-113 (spinal fusion) with a 28% success rate.

Pricing and reimbursement: Following European approval, Kuros' products must be priced and reimbursed by local health care providers. In the US pricing and reimbursement is typically quite straightforward. In the EU pricing and reimbursement occurs on a country-by-country basis, which can lead to different pricing, reimbursement, and potential market launch delays.

Partnering and commercialization: With no own sales force, Kuros will need distributors, commercialization partners or will have to raise additional funds to build an own sales infrastructure. Upfront and sales milestones and royalties on sales from these distributors and partners could be lower than our estimates. Furthermore, the launched products must be successfully positioned and marketed against existing and upcoming treatments.

Patent and market exclusivity: KUR-023 is patent protected in the US (and similarly in the EU) until at least 2028 by a granted patent for its synthetic hydrogel technology (USPTO 8,961,947). A patent estate around the company's proprietary "TG-Hook" technology protects the orthobiologics KUR-111 and KUR-113, with first expiries starting in the mid 2020's, with the potential for extensions. Market exclusivities, such as 10 years data exclusivity, 5 years NCE (new chemical entity) exclusivity, provide another layer of protection. Finally, any biosimilar competitor would have to establish safety and efficacy from scratch in costly and lengthy trials. Therefore, we believe Kuros' orthobiologics will enjoy at least 10 years exclusivity, and likely more.

External sourcing: Kuros does not have its own manufacturing facilities and is dependent on external sourcing to manufacture its products according to strict regulatory specifications. Estimated COGS could be higher than our projections.

Catalysts

On January 20th, 2016 Kuros Biosciences was established after the successful closing of the reverse merger of Cytos Biotechnology with Kuros Biosurgery, and was listed on the SIX Swiss Stock Exchange with the ticker KURN. Kuros Biosciences will focus on novel treatments for tissue repair and regeneration.

With approximately CHF 18 mn cash (June 30th, 2016E) the company has sufficient funds to:

- Prepare CE marking for the commercial launch of KUR-023 in Europe in 2017
- Complete a PMA trial for KUR-023 to support US approval expected in 2020
- Prepare the pivotal phase III development plans for KUR-111 and KUR-113

CATALYST TIMELINES

TIME LINE	PRODUCT	INDICATION	MILESTONE	COMMENT	IMPACT
2016					
20 JAN			KUROS BIOSCIENCES	KUROS BIOSURGERY CLOSES MERGER WITH CYTOS BIOTECHNOLOGY TO FORM KUROS BIOSCIENCES	
20 APR	CYT003 (CMP-001)	CANCER (MELANOMA) VACCINE	MILESTONE PAYMENT	USD 1 MN MILESTONE RECEIVED FROM CHECKMATE PHARMA ON FIRST DOSING MELANOMA PATIENT IN PHASE IB TRIAL	
26 APR			FY 2015 RESULTS	SUFFICIENT CASH (CHF 20 MN, APRIL 30, 2016E) TO BRING KUR-023 TO EU & US MARKET AND PREPARE PHASE III DEVELOPMENT PROGRAMS FOR KUR-111 & KUR-113	
16 JUN			AGM	REVERSED STOCK SPLIT 100 FOR 1 NEW; LEANNA CARON ELECTED	
	KUR-023	DURAL MEMBRANE SEALANT	CE MARKING (CRANIAL)	SUBMIT CE MARKING BASED ON EU CLINICAL TRIAL (40 CRANIAL PATIENTS)	
	KUR-111	BONE GRAFT SUBSTITUTE	PHASE III PROGRAM	PREPARE PHASE III DEVELOPMENT PROGRAM	
	KUR-113	BONE FRACTURE HEALING	END OF PHASE II TALK	END OF PHASE II TALK WITH FDA TO PREPARE PHASE III DEVELOPMENT PROGRAM	
~END	KUR-023	DURAL MEMBRANE SEALANT	US SUBMISSION PACKAGE	FILING US PMA DEVELOPMENT PACKAGE TO FDA	
2017					
	KUR-023	DURAL MEMBRANE SEALANT	US TRIAL (CRANIAL)	START OF CLINICAL TRIAL (~200 CRANIAL PATIENTS) TO SUPPORT US PREMARKET APPROVAL (PMA)	+CHF 0.6
	KUR-023	DURAL MEMBRANE SEALANT	CE MARKING (CRANIAL)	CE MARKING ALLOWS FOR EU MARKET LAUNCH	
	KUR-023	DURAL MEMBRANE SEALANT	PARTNERING	SEEK COMMERCIALIZATION PARTNER(S) AND/OR DISTRIBUTORS	
	KUR-023	DURAL MEMBRANE SEALANT	EU LAUNCH (CRANIAL)	THROUGH COMMERCIALIZATION PARTNER OR DISTRIBUTOR	+CHF 0.6
2018					
	KUR-023	DURAL MEMBRANE SEALANT	EU LAUNCH (SPINAL)	THROUGH COMMERCIALIZATION PARTNER OR DISTRIBUTOR	
2019					
	KUR-023	DURAL MEMBRANE SEALANT	US TRIAL (CRANIAL)	RESULTS OF CLINICAL TRIAL TO SUPPORT US PREMARKET APPROVAL	+CHF 0.6
	KUR-023	DURAL MEMBRANE SEALANT	US FILING (CRANIAL)	FILING BASED ON 200 PATIENT CRANIAL TRIAL FOR PMA APPROVAL	
	KUR-023	DURAL MEMBRANE SEALANT	US TRIAL (SPINAL)	START US TRIAL FOR PMA APPROVAL IN SPINE PATIENTS	
	KUR-111	BONE GRAFT SUBSTITUTE	PHASE III TRIAL	START PHASE III TRIALS IN THE US & EU	+CHF 5.3
	KUR-113	BONE FRACTURE HEALING	PHASE III TRIAL	START PHASE III TRIALS IN THE US & EU	+CHF 3.4
	KUR-113	SPINAL FUSION SURGERY	PHASE IIB TRIAL	START PHASE IIB TRIAL IN SPINAL FUSION SURGERY	+CHF 2.2

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

Technology & Pipeline

TECHNOLOGY PLATFORM

Three proprietary technology platforms targeting attractive market opportunities
Kuros develops products based on biomaterials and biologic/biomaterial combinations. These products are based on either a synthetic-based technology platform or a fibrin-based technology platform. Both technologies can be used to develop products with a wide range of physical and biological characteristics for a range of applications. Both technology platforms exhibit good biocompatibility, can be physically linked with biologics and can be polymerized in-situ (i.e. they form at the target site and stay where needed), creating a perfect shape matching and biologically active material with the biologic being retained at the target site. The primary growth factor incorporating technology is called "TG-Hook" technology. In addition, Kuros has immune-modulating technologies that it is progressing in collaboration with partners.

As a result of the reverse merger, **Kuros now has three proprietary technology platforms** of which the first two stem from Kuros Biosurgery and the latter from Cytos Biotechnology:

1. **Fibrin-based technology platform** ("TG-Hook" technology enables covalent linking of biologics, such as growth factors, to fibrin-based biomaterials, allowing their controlled release by natural processes in the tissue)
2. **Synthetic–based technology platform** (highly specific cross-linking chemistry that can be carried out locally after application on tissues in the body)
3. **Immune-modulating platform** (vaccine technology platform to induce the body's own immune system to combat disease)

1) Fibrin-based technology platform (proprietary "TG-Hook" platform)
Fibrin is a natural biomaterial and the main structural component of blood clots. Fibrin acts as a healing matrix and promotes tissue repair while restoring tissue function. Through a natural polymerization mechanism, fibrin is formed by the conversion of a soluble precursor (fibrinogen) to a solid degradable matrix. As a commercial product, fibrin sealants have been used for more than 30 years, primarily for the prevention of blood loss during a variety of surgical procedures. Based on this clinical experience, fibrin sealants are considered to be very safe with a long history of use and a well-documented safety profile.

Many advantages with Kuros' TG-Hook technology platform
Kuros' key proprietary TG-Hook technology platform is based on the local, covalent attachment of biologics into a specific fibrin matrix. Kuros' TG-Hook technology enables covalent linking of biologics, such as growth factors, to fibrin-based biomaterials, while allowing their controlled release by natural enzymes in the tissue. Using this technology, the biologics become an integral part of the biomaterial. The mechanism used for covalently linking biologics is derived from the formation of a natural blood clot, a transglutaminase (TG) enzyme called Factor XIIIa is a key enzyme involved in cross-linking fibrinogen molecules, thereby forming a solid fibrin matrix, whose normal function is to stop blood loss. Kuros' products employ this same mechanism to cross-link biologics

into fibrin during the formation of the fibrin polymer. The TG-Hook technology is further designed such that the active domain of the biologic can be released upon cellular infiltration into the matrix.

There are several advantages to this approach:

- The material solidifies and cross-links in-situ to adopt the shape of the defect it is being administered to, which also allows administration into smaller or more complex defects and access sites (e.g. fine fractures and minimally invasive spinal procedures) or by spray or foam.
- The cross-linking mechanism is entirely biocompatible as it employs the natural blood clotting process, thereby preventing any local tissue damage while maintaining the functional integrity of the biologic.
- The composite is mainly composed of fibrin, which is nature's healing matrix, thereby promoting natural healing based on cellular infiltration.
- The resulting product has the required biologic covalently incorporated, ensuring local retention, as well as minimizing systemic exposure and effects on surrounding tissues.
- The biologic has been designed to only become active when it is cleaved from the fibrin matrix by infiltrating cells – hence the material has been designed to be effective in response to the local healing mechanism and only become available locally and at the rate of the local healing process.

Because the polymer is composed of natural materials, it ultimately degrades completely leaving only healed tissue.

2) Synthetic-based technology platform (highly specific cross-linking chemistry)
Kuros has a broad platform technology for developing biomaterials based on synthetic matrices. This technology is based on a highly specific cross-linking chemistry that can be carried out on the target site after application on tissues in the body, without heat generation or significant biocompatibility concerns. One significant advantage of this technology is that the characteristics of the synthetic matrices can be easily controlled through the molecular make-up of each individual component. As such, this technology provides a high degree of flexibility in engineering the products, allowing the specifications to precisely match the clinical needs. Product characteristics that can be controlled include degradability, strength, viscosity and injectability. By utilizing different molecules for the components of the matrices, the synthetic matrices can either be soft and elastic or have a compressive strength greater than bone, for example. Degradable matrices can be designed to degrade in the body into safe by-products that can be easily cleared from the body.

The two technologies above have been developed in close cooperation with the ETHZ (Eidgenoessische Technische Hochschule Zurich), the University of Zurich, and Caltech (California Institute of Technology) and were spun out into Kuros Biosurgery in 2000. Kuros has exclusive worldwide license agreements on patents, patent applications and know-how with these third parties in its target indications, next to its own patents.

3) Immune modulating technologies (interfering with an ongoing disease process)
The company's immune modulation vaccine technology represents a versatile means to induce specific immune responses against disease-associated target molecules from a

wide variety of sources, including the body's own as well as foreign molecules. The immune modulation technology brings the targets of choice into a highly repetitive format by chemically attaching them onto the surface of virus-like particles (VLP's). The resulting immune modulation vaccines mimic a virus through this repetitive and particulate structure and are able to induce potent antibody responses against the selected targets with the goal of modulating or interfering with an ongoing disease process. Vaccine candidates based on Cytos' VLP platform have been tested in various preclinical and clinical studies and were found to be safe, generally well tolerated and highly immunogenic. The vaccine platform is modular, robust and scalable. CYT003 has been tested in multiple clinical studies and was shown to have a good safety and tolerability profile in more than 700 patients receiving the active agent so far.

PIPELINE

An attractive mix of medical devices, orthobiologics and therapeutic vaccines

PRODUCT PIPELINE

PRODUCT	CLASS	PATHWAY	INDICATION	STATUS	LAUNCH DATE (EXPECTED)	PARTNER	PEAK SALES
KUR-023	MEDICAL DEVICE	CE MARK * (EU) PMA ** (US)	DURAL MEMBRANE SEALANT	CE MARK (EU)	2017 (EU) 2020 (US)	PARTNER AFTER REGISTRATION TRIALS	CHF 100+ MN
KUR-111	ORTHOBIOLOGIC	NDA ***	BONE GRAFT SUBSTITUTE	PHASE IIB	2022	PARTNER AFTER PHASE III	CHF 600 MN
KUR-113	ORTHOBIOLOGIC	NDA	BONE FRACTURE HEALING	PHASE IIB	2022	PARTNER AFTER PHASE III	CHF 300+ MN
KUR-113	ORTHOBIOLOGIC	NDA	SPINAL FUSION GRAFTS	PHASE I	2024	PARTNER AFTER PHASE III	CHF 500 MN
CYT003/CMP-001 (CHECKMATE)	THERAPEUTIC VACCINE	NDA	CANCER (E.G. MELANOMA)	PHASE IB	>2024	CHECKMATE PHARMA	CHF 400 MN
VLP (ARBUTUS)	THERAPEUTIC VACCINE	NDA	HEPATITIS B & VIRAL INFECTIONS	PHASE I	>2024	ARBUTUS BIOPHARMA	CHF 350+ MN
VLP-IGE (PFIZER)	THERAPEUTIC VACCINE	NDA	ANTI-IGE (E.G. ALLERGIC ASTHMA)	PHASE I	>2024	PFIZER	CHF 350+ MN

* CE MARK: CONFORMITÉ EUROPÉENNE MARK; ** PMA = PREMARKET APPROVAL; *** NDA = NEW DRUG APPLICATION

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

Kuros' pipeline now consists of an attractive mix of medical devices, orthobiologics and therapeutic vaccines providing a nice balance in development pathways, costs, timelines, risk profiles, life cycles, and all addressing lucrative market opportunities.

KUR-023, the dural membrane sealant is classified as a medical device, with shorter development requirements, costs and timelines than Kuros' other projects, and will start to generate revenues and profits for the company in the near-term.

KUR-111 and KUR-113, for bone fracture grafting, healing, and spinal fusion surgery, are considered biological products due to their fibrin and PTH (parathyroid hormone) components, and therefore must undergo rigorous clinical testing, at higher costs with longer development timelines. However, after successful development these products should enjoy higher pricing and profitability, and longer exclusivity from potential biosimilar competition due to the considerably long development timelines and high approval thresholds. These projects are Kuros' key drivers of medium and long-term revenues and profitability.

Therapeutic vaccine collaborations with Checkmate, Arbutus, Pfizer, provide Kuros with a long-term call option with no downside risk. These collaborations target attractive market opportunities and will be fully funded, developed and commercialized by their partners in return for significant milestone payments and royalties on sales.

In the following section we will provide an in-depth analysis and forecasts for Kuros' key drivers: 1) KUR-023 (dural membrane sealant); 2) KUR-111 (bone graft substitute); and 3) KUR-113 (bone fracture healing & spinal fusion).

Forecasts & Sensitivity Analysis

KUR-023 (Dural Membrane Sealant)

Product Analysis

Peak sales of CHF 100+ mn - Risk-adjusted NPV of CHF 10 per share

We forecast peak sales of CHF 100+ mn for KUR-023, the dural membrane sealant, assuming EU market launch in 2017 and US launch in 2020, a single treatment cost of between EUR 400 (EU) and USD 650 (US) per kit, and a market penetration peaking at around 40% in the target population. On CE marking we assume Kuros to sign on a commercialization partner. In return, we conservatively expect the company to receive 30% royalties on sales and up to CHF 20 mn in launch milestones. Our risk-adjusted NPV amounts to CHF 60 mn, or CHF 10 per share with an 80% success rate, the average of the EU (90%; CE marking) and US (70%; preparation PMA), and a WACC of 7%. We conservatively assume an 18% share dilution based on the current market capitalization to raise CHF 25 mn to fund the phase III development of Kuros' orthobiologics KUR-111 and KUR-113. The company has sufficient funds to bring KUR-023 up to EU and US market launch.

Kuros' first product to reach the market in 2017

KUR-023 is a novel synthetic hydrogel-based sealant that utilizes Kuros' synthetic technology and is administered through an easy-to-prepare and use syringe. It is designed to seal the sutured dura mater in brain (cranial) and spinal surgery to form a watertight closure that prevents the leakage of cerebrospinal fluid (CSF), which can cause severe side effects, lengthen hospital stays with associated costs. KUR-023 has completed a successful European registration trial in 41 brain surgery patients. The company is planning to submit for CE marking this year; with first EU member state launches through a commercialization partner or distributor to occur in 2017. This would mark Kuros' first product launch. The company plans to submit an IDE (investigational device exemption) development package to the FDA in around year-end 2016 to start a US registration trial in 2017. This would allow for a US launch in 2020. KUR-023 addresses the medical adhesives and sealant market that is predicted to cross the USD 2 bn mark by 2017, in the US alone.

Sealing the gaps to prevent CSF leakage, side effects, hospital stays, and costs

The dura mater is a membrane that surrounds the brain and spinal cord. This membrane forms part of the blood-brain barrier and acts to contain the cerebrospinal fluid (CSF) within the brain and spinal cord. CSF is essential for the healthy functioning of the central nervous system by circulating nutrients, and also serves to cushion the brain from impacts and provide immunological protection. One of the risks of brain and spine surgery is that there is the potential for leakage of CSF. This is because the dura mater, which lines the inner surface of the skull and is the outermost tough fibrous membrane that surrounds the brain and spinal cord, has to be cut open to provide access to the brain or spinal cord. When the dura mater is closed during surgery, the surgeon will attempt to obtain a watertight closure, however the dura may dry out which results in small gaps remaining when the dura is sutured closed. Suturing can also produce small holes from where the needle passes through the dura, which may result in tiny holes that may leak CSF, and

create a potential pathway for infection to reach the brain and spinal cord. Despite meticulous attempts by surgeons to close the dura with no leaks, patients experience symptoms that result from CSF leakage, which can cause delayed wound healing, compression of neurological tissues, persistent, and often, severe headache, meningitis or even death. It is estimated that clinically relevant CSF leaks cost an average USD 6,500 in additional expense due to longer hospital and intensive care unit stays.

Conventional techniques and off-label permanent sealants with unproven efficacy

Conventional techniques of preventing CSF leaks are often insufficient and do not stop CSF leaks completely. Some surgeons used the method called “oversew” which results in surgeons sewing the stitches closer together in the tissue immediately overlying the surgical site. Other methods include surgeons packing the area with other tissues from the patient, such as fat, muscle or connective tissue. A product that is often used off-label is fibrin sealant, however, with unproven efficacy.

KUR-023 – A convenient, dissolvable, watertight sealant with limited swelling…

KUR-023 is a novel synthetic tissue sealant intended to be used as an adjunct to normal closure techniques such as suturing for the prevention of CSF leakage following brain or spinal surgery, based on two synthetic polymers that cross-link in-situ (at the site of administration) to seal the treated tissue. The cross-linking chemistry is highly specific, and does not generate any heat and is an addition reaction, meaning that no chemicals are released during the polymerization process. KUR-023 has been specifically designed to be easily applied as a liquid spray, forming a watertight gel immediately upon contact with the dura, thereby creating an effective seal to withstand cerebral pressures in excess of those experienced in a patient. The gel is designed to swell minimally (addressing a common problem with competitor hydrogels), to dissolve over a period of a few months, and not to interfere with the natural healing process. KUR-023 will be packaged in a single use kit, with an easy-to-prepare and use double-barreled syringe.

… with a favorable profile compared to in-market products

Currently, there are only a two approved absorbable dural membrane sealants on the market; Integra’s DuraSeal approved in 2009, and Hyperbranch Medical Technology’ s Adherus Autospray approved in 2015. KUR-023 has demonstrated the best sealant rate at 100% (albeit in a small 41-patient trial – see below) compared to a 98% rate for DuraSeal in a 250-patient trial, and a 91% rate for Adherus Autospray in a 231-patient trial. DuraSeal, a polyethylene glycol hydrogel, may not be used and applied to confined bony structures where nerves are present as neural compression could result in sealant gel swelling. This could result in the hydrogel swelling up to 50% of its original size in any dimension (236% in volume terms). KUR-023 has minimal swelling (undisclosed) with the potential for broader use.

Single registration trial required for both EU and US marketing approval

KUR-023 qualifies as a medical device under the US Federal Food, Drug and Cosmetic Act and the European Medical Device Directive, regulating the development, manufacture, and approval procedures and marketing authorization. In the US KUR-023 will be classified as Class III medical device. Approval to market KUR-023 in the US requires PMA (premarket approval) application, where an additional clinical trial is needed to confirm safety and efficacy. Similarly, marketing approval in the EU requires a CE mark, a mandatory confirmatory marking, with safety and efficacy established through a single registration trial, which has already been completed successfully.

Compelling results in EU registration trial – no leakage after a single application
KUR-023 was evaluated in a European, prospective, multi-center, non-randomized, and single arm trial, in which 41 patients undergoing brain surgery were treated.

Results of the European registration clinical trial

	STUDY PROTOCOL	OUTCOMES
TRIAL DESIGN	41 PATIENT, PROSPECTIVE, MULTI-CENTER, NON-RANDOMIZED, SINGLE-ARM TRIAL	
PRIMARY ENDPOINT	ABILITY OF SEALANT TO STOP INTRA-OPERATIVE LEAKAGE ASSESSED	ALL 40 EVALUABLE PATIENTS SEALED ON A SINGLE APPLICATION
SECONDARY ENDPOINTS	RATE OF POST-SURGICAL LEAKAGE OBSERVED OUT TO 90 DAYS POST SURGERY	NO POST-SURGICAL LEAKAGE EVENTS OBSERVED
SAFETY	- INFECTION AND UNEXPECTED NEUROLOGICAL SIGNS UP TO 90 DAYS POST SURGERY - WOUND HEALING IMPAIRMENT - INCIDENCE OF ADVERSE EVENTS	- NO SAFETY CONCERNS - NO INDICATION OF IMPAIRMENT OF HEALING

SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

The primary endpoint was the prevention of intra-operative leakage. The secondary endpoints related to safety and further effectiveness assessments. In the 40 evaluable patients, a single application of KUR-023 was sufficient to seal the intra-operative leakage, with the study meeting its primary endpoint. Secondary endpoints were also met with no post-surgical leakage events seen out to 90 days after the surgery. No safety concerns were found, while there was no indication that KUR-023 impaired healing.

Clinical trial development and projected regulatory timelines
Kuros plans to submit KUR-023 for CE marking in the EU in 2016 based on the positive European registration trial. EU approval and launch as a dural membrane sealant in brain surgery is expected in 2017. We believe a (very) small European registration trial in spine surgery patients should be sufficient to secure EU approval for this indication in 2018.
In the US, Kuros plans to submit its IDE (investigational device exemption) development package around year-end 2016, applying first for a ~200-patient registration trial in brain surgery patients. The positive European trial is intended to be a pilot for US approval. The US cranial trial is expected to start in 2017, with results and filing in 2019, and approval and launch in 2020. We conservatively, expect launch in spine surgery to occur in 2022, based on the single spine registration trial starting around 2020. Kuros has sufficient funds to execute its development plans for KUR-023.

CHF 118 mn peak sales potential for KUR-023 in dural membrane sealing
In our detailed KUR-023 forecasts we have accounted for two regions, Europe and the US; and two indications, cranial (brain) and spinal surgery. Furthermore, we assume a commercialization partner to market KUR-023 in each region in return for a CHF 5 mn launch milestone payment for each indication and a 30% royalty rate on sales. KUR-023 should enjoy patent protection until at least 2028, thanks to granted patents protecting Kuros' polymeric tissue technology. Similar patents protect KUR-023 in the major regions outside the US.

1) **Europe:** We believe peak sales could amount to CHF 42 mn, assuming a single kit price of EUR 400 per treatment. We assume ~350,000 cranial procedures per year growing at 2% per year, of which 30% require a dural membrane sealant, and

launch to occur in 2017 with a penetration reaching up to 40%. The amount of spinal procedures is estimated at ~800,000 per year growing at a similar rate, with only 10% requiring a dural membrane sealant. Launch is expected in 2018 with a similar peak penetration as in cranial. We estimate COGS to start at around 24% of sales and gradually decline to 19%. In our COGS, we have accounted for royalty payments to Straumann, the two Zurich universities ETHZ and UHZ, and payments to Medimix.

2) **US:** Peak sales in the US are expected to be higher than in the Europe amounting to CHF 76 mn despite later launch dates. This is largely due to the higher single kit price of USD 650 per treatment, and the relatively higher percentage of dural sealant procedures in both indications. Of the estimated ~350,000 cranial procedures growing at 2% per year, we assume that 35% require a dural membrane sealant. Launch is expected in 2020 with peak penetration rates reaching 40%, similar to Europe. Of the estimated 800,000 spinal procedures per year, we estimate 14% require a dural membrane sealant. Launch in spine is expected in 2022 reaching similar peak penetration rates. We have not accounted for any off-label use, which could occur due to the earlier approval in cranial. We expect COGS, which include royalty payments, to be lower than in Europe due to the higher selling price, starting at 18% and gradually declining to 10%.

Based on global peak sales amounting to CHF 118 mn, a success rate of 80%, the average of Europe (90%; CE marking) and the US (70%; preparation PMA), and a WACC of 7% we derive a risk-adjusted NPV of CHF 60 mn. Adjusting for an 18% share dilution to raise CHF 25 mn to fund Kuros orthobiologics development plans, this amounts to a risk-adjusted NPV of CHF 10 per share.

For our detailed forecasts, including a sensitivity analysis, see the following page.

Forecasts & Sensitivity Analysis

KUR-023 - FINANCIAL FORECASTS FOR DURAL MEMBRANE SEALANT

INDICATION	AS AN ADJUNCT TO SUTURED DURAL REPAIR DURING CRANIAL AND SPINAL SURGERY TO PROVIDE WATERTIGHT CLOSURE
DOSAGE	1 KIT PER SURGICAL PROCEDURE
PRICE	EU: EUR 400 PER KIT; US: USD 650 PER KIT
STANDARD OF CARE	SUTURES, FIBRIN, SYNTHETIC HYDROGELS; ONLY "DURASEAL" & "ADHERUS AUTOSPRAY" ARE APPROVED FOR THIS INDICATION
UNIQUE SELLING POINT	EASY-TO-USE HANDHELD SYRINGE THAT PROVIDES INCREASED BURST STRENGTH AND REDUCED SWELLING THAN CURRENT APPROACHES

7Ps ANALYSIS

PATENT	US: PATENT PROTECTION UNTIL APRIL 2028 (USPTO 8,961,947) POLYMERIC TISSUE TECHNOLOGY FILED IN APRIL 2008; EU: 2028 (AS US)
PHASE	EU: SINGLE REGISTRATION TRIAL COMPLETED, CE MARKING & LAUNCH 2017; US: PMA TRIAL 2017, RESULTS & FILING 2019, LAUNCH 2020
PATHWAY	EU: CE MARKING (POSITIVE 41-PATIENT TRIAL COMPLETED); US: PMA (PREMARKETING APPROVAL) PREPARING 200-PATIENT US TRIAL
PATIENT	LIMITED SAFETY CONCERNS AS ADHESIVE IS BIOCOMPATIBLE AND BIODEGRADABLE, LOW RISK OF SIDE EFFECTS SUCH AS INFECTIONS
PHYSICIAN	EASY-TO-PREPARE HAND-HELD SYRINGE THAT ALLOWS PRECISE DELIVERY OF STRONG BIO-ADHESIVE SEAL WITH REDUCED SWELLING
PAYER	PROVEN EFFICACY & SAFETY WITH LOWER RISK OF SIDE EFFECTS (E.G. INFECTIONS) LEADING TO LOWER OVERALL TREATMENT COSTS
PARTNER	SEEKING DISTRIBUTOR OR COMMERCIALIZATION PARTNER IN RETURN FOR UPFRONT & SALES MILESTONES AND ROYALTY PAYMENTS

REVENUE MODEL

EUROPE	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
NUMBER OF CRANIAL PROCEDURES	350,000	357,000	364,140	371,423	378,851	386,428	394,157	402,040	410,081	418,282	426,648
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
DURAL SEALANT REQUIRED (%)	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
CRANIAL PROCEDURES WITH DURAL SEALANT	105,000	107,100	109,242	111,427	113,655	115,928	118,247	120,612	123,024	125,485	127,994
PENETRATION (%)	0%	0%	5%	20%	30%	35%	38%	39%	40%	40%	40%
CRANIAL PROCEDURES WITH KUR-023	0	0	5,462	22,285	34,097	40,575	44,934	47,039	49,210	50,194	51,198
NUMBER OF SPINAL PROCEDURES	800,000	816,000	832,320	848,966	865,946	883,265	900,930	918,949	937,328	956,074	975,196
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
DURAL SEALANT REQUIRED (%)	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SPINAL PROCEDURES WITH DURAL SEALANT	80,000	81,600	83,232	84,897	86,595	88,326	90,093	91,895	93,733	95,607	97,520
PENETRATION (%)	0%	0%	0%	5%	20%	30%	35%	38%	39%	40%	40%
SPINAL PROCEDURES WITH KUR-023	0	0	0	4,245	17,319	26,498	31,533	34,920	36,556	38,243	39,008
TOTAL NUMBER OF PROCEDURES WITH KUR-023	0	0	5,462	26,530	51,416	67,073	76,466	81,959	85,765	88,437	90,206
COST PER PROCEDURE (CHF)	432	439	439	439	439	439	439	439	439	439	439
SALES (CHF MN)	**0**	**0**	**2**	**12**	**23**	**29**	**34**	**36**	**38**	**39**	**40**
CHANGE (%)				386%	94%	30%	14%	7%	5%	3%	2%
ROYALTY INCOME (30%) (CHF MN)	0	0	1	3	7	9	10	11	11	12	12
UPFRONT & MILESTONE INCOME (CHF MN)		0	5	5	0	0	0	0	0	0	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	-1	-3	-5	-6	-7	-7	-7	-6	-6
R&D COSTS (CHF MN)	0	-1	0	0	0	0	0	0	0	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**-1**	**5**	**6**	**2**	**3**	**4**	**4**	**4**	**6**	**6**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT (CHF MN)	**0**	**-1**	**5**	**6**	**2**	**3**	**4**	**4**	**4**	**6**	**6**

UNITED STATES	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
NUMBER OF CRANIAL PROCEDURES	350,000	357,000	364,140	371,423	378,851	386,428	394,157	402,040	410,081	418,282	426,648
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
DURAL SEALANT REQUIRED (%)	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
CRANIAL PROCEDURES WITH DURAL SEALANT	122,500	124,950	127,449	129,998	132,598	135,250	137,955	140,714	143,528	146,399	149,327
PENETRATION (%)	0%	0%	0%	0%	0%	5%	20%	30%	35%	38%	39%
CRANIAL PROCEDURES WITH KUR-023	0	0	0	0	0	6,762	27,591	42,214	50,235	55,632	58,237
NUMBER OF SPINAL PROCEDURES	800,000	816,000	832,320	848,966	865,946	883,265	900,930	918,949	937,328	956,074	975,196
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
DURAL SEALANT REQUIRED (%)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
SPINAL PROCEDURES WITH DURAL SEALANT	110,000	112,200	114,444	116,733	119,068	121,449	123,878	126,355	128,883	131,460	134,089
PENETRATION (%)	0%	0%	0%	0%	0%	0%	0%	5%	20%	30%	35%
SPINAL PROCEDURES WITH KUR-023	0	0	0	0	0	0	0	6,318	25,777	39,438	46,931
TOTAL NUMBER OF PROCEDURES WITH KUR-023	0	0	0	0	0	6,762	27,591	48,532	76,011	95,070	105,169
COST PER PROCEDURE (CHF)	634	634	634	634	634	634	634	634	634	634	634
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**4**	**17**	**31**	**48**	**60**	**67**
CHANGE (%)							308%	76%	57%	25%	11%
ROYALTY INCOME (30%) (CHF MN)	0	0	0	0	0	1	5	9	14	18	20
UPFRONT & MILESTONE INCOME (CHF MN)	0	0	0	0	0	5	0	5	0	0	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	-1	-3	-4	-7	-6	-7
R&D COSTS (CHF MN)	0	0	-4	-1	0	-4	-1	0	0	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**0**	**-4**	**-1**	**0**	**2**	**2**	**10**	**8**	**12**	**13**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	-1
PROFIT (CHF MN)	**0**	**0**	**-4**	**-1**	**0**	**2**	**2**	**10**	**8**	**12**	**13**

	2015E	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
GLOBAL SALES (CHF MN)	**0**	**0**	**2**	**12**	**23**	**34**	**51**	**67**	**86**	**99**	**106**
CHANGE (%)				386%	94%	49%	51%	31%	29%	15%	7%
GLOBAL PROFIT (CHF MN)	**0**	**-1**	**2**	**5**	**2**	**5**	**5**	**14**	**12**	**18**	**18**
CHANGE (%)			-431%	217%	-63%	152%	11%	158%	-12%	46%	2%

WACC (%)	7.0%	
NPV TOTAL PROFIT (CHF MN)	**75**	
NUMBER OF SHARES (MN)	6.0	(DILUTED NUMBER OF SHARES TO RAISE CHF 25 MN)
NPV PER SHARE (CHF)	**12.5**	
SUCCESS PROBABILITY	80%	= AVERAGE OF CE MARKING IN EU (90%) AND PREPARATION US PMA (70%)
RISK ADJUSTED NPV PER SHARE (CHF)	**10.0**	

SENSITIVITY ANALYSIS

		WACC (%)							
	CHF/SHARE	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
	100%	14.0	13.5	13.0	12.5	12.0	11.5	11.1	10.7
	95%	13.3	12.8	12.3	11.8	11.4	10.9	10.5	10.1
	90%	12.6	12.1	11.7	11.2	10.8	10.4	10.0	9.6
	85%	11.9	11.5	11.0	10.6	10.2	9.8	9.4	9.1
SUCCESS PROBABILITY	80%	11.2	10.8	10.4	**10.0**	9.6	9.2	8.9	8.5
	75%	10.5	10.1	9.7	9.3	9.0	8.6	8.3	8.0
	70%	9.8	9.4	9.1	8.7	8.4	8.1	7.8	7.5
	65%	9.1	8.8	8.4	8.1	7.8	7.5	7.2	6.9
	60%	8.4	8.1	7.8	7.5	7.2	6.9	6.7	6.4

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB ESTIMATES

Unique Selling Point

Easy-to-use and prepare handheld double-barreled syringe that provides increased burst strength and reduced swelling than currently approved dural membrane sealants.

7P's Analysis

Patent: KUR-023 is patent protected in the US until at least April 2028 thanks to granted patents related to its proprietary polymeric tissue technology. Similar patents protect KUR-023 in the major regions outside the US.

Phase: In the EU, Kuros has successfully completed the required single registration trial and is preparing for the CE mark. EU launch is expected in 2017. In the European 40-patient clinical trial KUR-023 rapidly sealed the leaking dural membrane in all cases, meeting all clinical endpoints, with no safety issues observed. The European clinical trial is intended to be a pilot for US approval. In the US, Kuros is preparing a ~200-patient clinical trial to gain US PMA (premarket approval) approval. The trial is expected to start in 2017, with results and filing in 2019, and launch in 2020.

Pathway: KUR-023 is considered a medical device in both the EU and US. To gain marketing access in the 28 EU member states, EFTA countries, and Switzerland and Turkey, KUR-023 needs to receive the CE mark (Conformité Européene), a mandatory confirmatory marking. A single positive registration clinical trial is sufficient to evaluate the safety and effectiveness of KUR-023 in the EU. In the US, KUR-023 is classified a Class III medical device, considering the importance of effectively sealing the dural membrane, and therefore PMA (premarket approval) is required prior to marketing. A further positive PMA clinical trial is required to launch KUR-023 in the US.

Patient: KUR-023 has limited safety concerns, as the adhesive is biocompatible and biodegradable with a low risk of side effects such as infections.

Physician: The compound is an easy-to-prepare and use handheld double-barreled syringe that allows the precise delivery of a strong bio-adhesive seal to prevent the leakage of cerebrospinal fluid, with reduced swelling compared to current in-market products, such as DuraSeal.

Payer: KUR-023 has proven efficacy and safety (e.g. lower risk of infections) compared to frequently used, unapproved sealants such as fibrins, leading to lower overall treatment costs. It is estimated that clinically relevant CSF leaks cost an average USD 6,500 in additional expense due to longer hospital and intensive care unit stays.

Partner: Kuros is seeking a distributor or a commercialization partner in return for significant upfront and milestone payments and royalty payments on sales. We assume Kuros signs on a commercialization partner on approval in return for a CHF 5 mn launch milestone per indication and a 30% royalty rate on sales in each region.

KUR-111 (Bone Graft Substitute)

Product Analysis

KUR-111 peak sales of CHF 600 mn - Risk-adjusted NPV of CHF 21.40 per share

We forecast peak sales of approximately CHF 600 mn for Kuros' bone graft substitute KUR-111, assuming a global launch in 2022, a single treatment cost of between EUR 2,500 (EU) and USD 3,500 (US) per procedure, and a market penetration peaking at around 10% in the target population. On completion of phase III development, we assume Kuros to sign on a commercialization partner, in return for up to CHF 150 mn in upfront, launch and sales milestone payments, and 25% royalties on sales. Our risk-adjusted NPV amounts to CHF 128 mn with a 52% success rate (80% probability of moving into phase III with a historical success rate of 65%) and a WACC of 7%. We conservatively assume an 18% share dilution, based on the current market capitalization, to raise CHF 25 mn to fund the phase III development programs for KUR-111 and KUR-113.

Filling the gap to become the new gold standard bone graft

KUR-111 is a novel bone graft substitute designed to be a highly efficacious alternative to gold standard autograft (transplantation of bone from the same individual) in healing fractures where a bone graft is needed, such as with tibial plateau fractures (fractures of the upper end of the shinbone). In a large phase IIb dosing-trial in 183 patients with tibial plateau fractures, KUR-111 proved to be just as effective as autograft, both 6 months and one year after surgery, with no indication of safety issues. Autograft requires bone harvesting at another healthy site of the patient's body with associated risk of infection, pain, and cost. This is not needed with KUR-111. Kuros is in preparation for phase III development of KUR-111, including a manufacturing upgrade to comply with the ongoing stringent regulatory requirements and to improve yields. On securing sufficient funding, we expect the company to start phase III trials in 2019, which would allow for a global launch in 2022. The current bone graft substitute market, excluding autograft, is estimated at more than USD 2 bn per year. The potential replacement of autograft, by safe and effective bone graft substitutes, would significantly increase the total market opportunity, while reducing the need for additional bone harvesting surgery.

Global incidence of fracture is expected to more than double by 2050

Every year more than 50 mn fractures occur globally, resulting in 8 mn fracture repair surgeries. It is estimated that approximately 2.5 mn fractures do not heal properly. An estimated 1.4 mn and 1.3 mn bone grafting procedures take place every year in the US and Europe, respectively. According to the International Osteoporosis Foundation, the global incidence of fracture is anticipated to more than double in women and triple in men by 2050, driven by the ageing population, an increase in obesity, chronic arthritis, traffic accidents, and sport-related injuries. Safe and effective fracture repair therefore remains an unmet medical need.

Several options to fill the gap – autograft currently the gold standard

Bones have the natural ability to heal, but requires a small fracture space. If the fracture defect surpasses a critical size, surgical intervention is often required to promote complete healing. Standard treatment is to manipulate the bone to its correct position, minimizing any gaps at the fracture site (reduction), and then to fixate the bones in place either using plates, screws or nails inside the body (internal fixation) or rods and pins with the rods

external to the body/limb (external fixation). After reduction and fixation there still may be defects or voids that require filling with a bone graft or a bone graft substitute, in order to support healing. This is a surgical procedure that replaces missing bone in order to repair bone fractures that are extremely complex, pose a significant health risk to the patient, or fail to heal properly. The orthopedic surgeon has a choice of products available as bone grafts or bone graft substitutes. These differ with respect to efficacy, cost and patient morbidity and can be split into the following main groups:

1) BONE GRAFTS:

- **Autograft**: is a transplant of bone harvested from the non-essential bones from a patient's own body, often from the hipbone, calf bone, or ribs. Autograft is considered the gold standard bone grafting material due to its high efficacy and safety as it contains the individual's own cells and growth factors with no risk of rejection. However, the harvesting requires a separate surgical procedure at another healthy site of the patient, with associated costs, risk of complications (e.g. infections), and additional operating room and recovery time. In some patients autograft may be of poor quality or unusable. Autograft is used in approximately 38% of procedures in the US and 50% in Europe.
- **Allograft**: is a transplant of a cadaveric bone (freeze-dried bone and fresh frozen bone) usually obtained from a bone bank. Harvesting surgery with associated risks is not required. However, the efficacy and quality of the various allografts varies, and there is a risk of rejection and disease transmission.
- **Demineralized Bone Matrix (DBM):** is the use of processed allograft bone that is supplied in various formulations. DBM is pre-treated with chemicals which often alter the natural proteins of the allograft and does not always provide structural support.

2) BONE GRAFT SUBSTITUTES:

- **Synthetic ceramics**: these are man-made scaffolds that are often made of hydroxyapatite or other naturally occurring and biocompatible substances with similar mechanical properties to bone. These products are relatively safe and bear no risk of disease transmission. However, they usually do not contain biologic agents such as growth factors and are often mixed with bone marrow, which requires additional surgery and associated risks, to promote local bone growth. Efficacy is generally lower than autograft.
- **Others**: these include growth factor enhanced grafts (e.g. Medtronic's InFuse consisting of rhBMP-2), and stem cell-based autografts (e.g. Orthofix's Trinity or Nuvasive's Osteocel) in conjunction with a carrier matrix such as collagen. These grafts are produced using recombinant DNA technology and are therefore relatively expensive. Efficacy is comparable to autograft (without the need of harvesting surgery) but only in limited FDA approved indications (e.g. the lower spine, tibial repair, dental), although widely (>80%) used off-label. The potential risk of dangerous side effects for InFuse, triggering lawsuits, curtailed its stellar uptake. Nevertheless, InFuse remains one of the largest-selling bone graft substitute products, largely as a result of its proven efficacy.

Bone grafts and substitutes are used in various application areas such as spinal fusion (growing two or more vertebrae together), foot and ankle, long bone, dental, joint reconstruction, and craniomaxillofacial (brain and face) procedures. Allografts are mainly

used for the treatment of joint reconstruction, spinal, trauma, craniomaxillofacial, and dental procedures. Synthetic bone grafts are mainly used in long bone and spinal fusion procedures.

The three biological principles involved in successful bone grafts

Bone grafting is possible because bone tissue, unlike most other tissues, has the ability to regenerate completely if provided the environment into which to grow. As native bone grows, it will generally replace the graft material, resulting in a fully integrated region of new bone. The principles involved in successful bone grafts include **osteoconduction** (guiding the reparative growth of the natural bone), **osteoinduction** (encouraging undifferentiated cells to become active osteoblasts), and **osteogenesis** (living bone cells in the graft material contribute to bone remodeling). Osteogenesis only occurs with autograft tissue and allograft cellular bone matrices.

1) **Osteoconduction**: occurs when the bone graft material serves as a scaffold for new bone growth that is perpetuated by the native bone. Osteoblasts from the margin of the defect that is being grafted utilize the bone graft material as a framework upon which to spread and generate new bone. In the very least, a bone graft material should be osteoconductive.
2) **Osteoinduction**: involves the stimulation of osteoprogenitor cells to differentiate into osteoblasts that then begin new bone formation. The most widely studied type of osteoinductive cell mediators are bone morphogenetic proteins (BMPs). A bone graft material that is osteoconductive and osteoinductive will not only serve as a scaffold for currently existing osteoblasts but will also trigger the formation of new osteoblasts, theoretically promoting faster integration of the graft.
3) **Osteogenesis**: occurs when vital osteoblasts originating from the bone graft material contribute to new bone growth along with bone growth generated via the other two mechanisms.

Compelling profile of KUR-111 holds the promise to become a new gold standard

KUR-111, which utilizes Kuros' TG-Hook technology, was specifically designed as a bone graft substitute that safely and effectively regenerates bone, without having to resort to a harvesting procedure such as with gold standard autograft. KUR-111 is an easy-to-use device that forms a paste that can be easily applied directly into the various fracture defects and voids as moldable putty able to form to the shape of the bone defect. The material has also been designed to polymerize within the fracture site to form a perfect space filling graft substitute that resists compression, while providing optimal biological support for the healing process. KUR-111 consists of the following three key components:

1) **A natural matrix** (fibrin) to allow for polymerization at the site and subsequent natural healing
2) **A potent, targeted growth factor** (vPTH – variant parathyroid hormone) to enhance the healing response
3) **A structural ceramic component** (hydroxyapatite/tri-calcium phosphate (HA/TCP) granules) to provide mechanical stability during the healing process.

We believe the combination of these three components provides the key efficacy and safety profile to address the medical need.

PROCEDURE	OSTEOCONDUCTIVE	OSTEOINDUCTIVE	OSTEOGENIC	STRUCTURAL	COSTS PER UNIT	COMMENTS
AUTOGRAFT						
CANCELLOUS	+++	+++	+++	+	COST OF HARVESTING	DONOR SITE MORBIDITY, INCREASED TIME, BLOOD LOSS
CORTICAL	+	+	+	+++	COST OF HARVESTING	AS ABOVE
VASCULARIZE BONE	++	+	++	+++	COST OF HARVESTING	AS ABOVE
BONE MARROW ASPIRATE	+/-	++	+++	-	COST OF HARVESTING	AS ABOVE
PLATELET-RICH PLASMA	-	+++	-	-	USD 350	CONTROVERSIAL, UNPROVEN EFFICACY
ALLOGRAFT						
CANCELLOUS	+	+/-	-	+	USD 376	INFECTION TRANSMISSION, NOT OSTEOGENIC, HOST REJECTION
CORTICAL	+	+/-	-	+++	USD 530-1,681	AS ABOVE
DEMINERALIZED BONE MATRIX	+	+	-	-	USD 1,700	NO STRUCTURAL PROPERTIES, POTENTIAL HOST REJECTION
SYNTHETIC CERAMICS						
CALCIUM SULFATE	+	-	-	++	USD 655	RAPID RESORPTION, OSTEOCONDUCTIVE ONLY
CALCIUM PHOSPHATE	++	-	-	+++	USD 1,520	OSTEOCONDUCTIVE ONLY
TRICALCIUM PHOSPHATE	++	-	-	++	USD 875	OSTEOCONDUCTIVE ONLY
OTHERS						
RHBMP'S * (INFUSE)	+	+++	+	-	USD 3,500-5,000	LIMITED INDICATIONS, BLACKBOX WARNING
STEM CELL-BASED GRAFTS (TRINITY, OSTEOCEL)	+	+	++	-	USD 4,200	LIMITED EFFICACY DATA, HIGH COST
KUR-111 (FIBRIN, PTH, CERAMIC)	+++	+	++	++	USD 3,500 **	PREPARING PHASE III TRIALS
KUR-113 (FIBRIN, PTH)	++	+	++	-	USD 1,750 **	PREPARING PHASE III TRIALS

* RHBMP'S = RECOMBINANT HUMAN BONE MORPHOGENETIC PROTEINS; ** VALUATIONLAB ESTIMATE

SOURCE: VALUATIONLAB, KUROS BIOSCIENCES, ORGANOGENESIS 2012

As can be seen in the table above that provides an overview of the properties of the various types of bone graft sources, both of Kuros' orthobiologics have a promising profile. KUR-113, which is being developed for bone fracture healing and spinal fusion surgery, shares two of the three key components of KUR-111, as these indications do not require a ceramic component for structural rigidity. We will discuss KUR-113 in the following chapter on page 31.

Gold standard autograft shares all the principles involved in a successful bone graft, including excellent osteoconductive, osteoinductive and osteogenic properties, but with poor structural capability. The main drawback remains the harvesting surgery with all its associated risks and costs. Allograft excludes the harvesting surgery, but depending on the source (cadaver) and the preparation, it has positive osteoconductive and osteoinductive and poor osteogenic properties, with the risk of disease transmission and body to body variation. Synthetic ceramics are osteoconductive only, with strong structural capability.

Medtronic's InFuse provides an indicator for Kuros' orthobiologics

Medtronic's InFuse (BMP-2) was first approved for spinal fusion surgery in 2002, and in 2004 for tibia (shinbone) repairs, both potential indications for KUR-113. InFuse has positive osteoconductive (animal-derived collagen), osteoinductive and osteogenic properties thanks to its potent and targeted bone growth factor rhBMP-2 (recombinant human bone morphogenetic protein-2), which resulted in a sharp uptake with sales peaking at around USD 900 mn in 2011. We believe this provides a good indicator for the potential uptake of both of Kuros' orthobiologics that use vPTH (variant parathyroid hormone), another potent, and targeted bone growth factor, also with strong osteoconductive and osteogenic properties, which promotes bone repair. PTH is produced by the parathyroid glands and acts upon mesenchymal stem cells (MSC's). rhPTH (recombinant human parathyroid hormone) such as Eli Lilly's Forteo (teriparatide) has shown to increase bone mineral density in lumbar spines and femoral necks, and reduces the overall fracture risk, when used in a pulsatile fashion. KUR-111/113 demonstrated cell mediated (released in response to healing) bone generation provided by its natural fibrin matrix in two successful phase IIb trials.

KUR-111 (and KUR-113) therefore has the potential to successfully compete against autograft, DBM, synthetic ceramics, and InFuse, with the potential to become the new gold standard bone graft. In particular, in light of the recent concerns surrounding Medtronic's InFuse, including lawsuits claiming intentional marketing of unapproved, off-label use of InFuse and for concealing dangerous side effects, which curtailed its stellar sales uptake. InFuse remains the largest-selling bone graft substitute in the market, as there is currently no other alternative. Given the compelling phase IIb clinical results seen in both of Kuros' orthobiologic products, we believe the company could successfully challenge the leading position of InFuse. Moreover, Kuros' products are easier to apply being either a moldable paste or gel. InFuse has a more cumbersome application of rhBMP-2 placed on an absorbable collagen sponge in various sizes for spinal fusion, and a collagen sheet containing BMP-2 that has to be wrapped around the broken bone, thereby disturbing surrounding soft tissues.

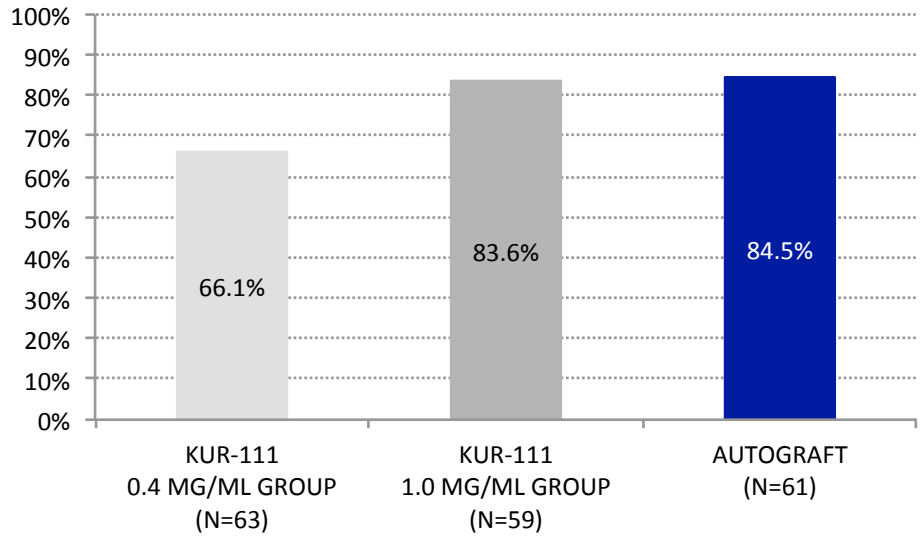
Efficacy comparable to gold standard autograft demonstrated in phase IIb trial

To find out whether KUR-111 could be an alternative to autograft in healing fractures where a bone graft is needed, the company conducted a phase IIb trial with KUR-111 in patients with a tibial plateau fracture. These are difficult to repair fractures and present a high benchmark for safety and efficacy.

The tibial plateau is the top surface of the shinbone (tibia) and is made of cancellous bone, which has a honeycombed appearance, and is softer than the thicker lower bone in the shinbone. Fractures that involve the tibial plateau occur when a force drives the lower end of the thighbone (femur) into the soft bone of the tibial plateau, such as traffic accidents or falls. The impact often causes the cancellous bone to compress and remain sunken as if it were a piece of Styrofoam that has been stepped on. These are challenging fractures, as the fracture needs very careful placement of the fragments to reestablish the surface of the knee to restore proper limb alignment in order to avoid instability and loss of motion, and to prevent the development of osteoarthritis of the knee. The repair of tibial plateau fractures often requires the replacement of bone lost by compression with autologous bone (autograft) from another healthy site of the body, such as the hipbone. The additional harvesting surgery can be painful for the patient, with the risk of infection and illness. An alternative approach with similar efficacy, but without the need for a second harvesting surgery, would fill an unmet medical need.

KUR-111 was evaluated in a randomized, controlled, open-label (dose-blinded), multi-center, phase IIb dose-finding trial in 183 patients with tibial plateau fractures that require fixation and grafting, at 30 centers across Europe and Australia. Patients were randomized to be treated with a low 0.4 mg/ml dose, a high 1.0 mg/ml dose of KUR-111, or an iliac crest (hip bone) cancellous autograft. KUR-111 was well tolerated, with good bone healing. It demonstrated similar efficacy to autograft, and it showed a difference in the bone healing response between the two concentrations of vPTH (variant parathyroid hormone) tested.

KUR-111 Non-Inferiority vs. Autograft



SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

The phase IIb trial achieved its primary efficacy endpoint, which was the demonstration of statistical non-inferiority to autograft with respect to the proportion of patients who achieved radiological fracture union at 16 weeks after grafting. In the ITT (intent-to-treat) population, 84.5% of autograft treated patients, and 83.6% of patients treated with the higher dose of KUR-111 had radiological fracture healing defined by an independent radiology panel using CT scans at 16 weeks after surgery. In addition, a substantial difference was observed between the two doses of vPTH tested in the trial, with the higher 1.0 mg/ml dose giving the higher efficacy (p-value of 0.033).

Secondary endpoints related to efficacy were consistent with the primary endpoint. These included measuring radiographic healing, clinical healing and maintenance of reduction at the 16-week time point, but also at earlier (6 and 12 weeks) and later (6, 12 and 24 months) time points. In the composite endpoint at 16 weeks, which combined CT scans and clinical outcomes, 72% of the patients treated with the high dose of KUR-111 healed compared to 63% of those treated with autograft. There were also no indications of any safety issues.

Maintenance of reduction was also demonstrated with minimal loss observed at all time points, out to the end of the study at 24 months. During the one-year follow-up, there was continuing improvement with radiological fracture union in 96.2% of patients treated with low dose KUR-111, 100% of those treated with high dose KUR-111 and 98.2% of those treated with autograft. Fracture healing as assessed by the investigator was consistent with assessment of radiographic union made by an independent panel of radiologists, with healing in 96.6% of the high dose KUR-111 group and 96.4% of the autograft group. There was no additional clinically relevant loss of reduction in any of the treatment groups compared to the post-operative assessment. Treatment with KUR-111 was well tolerated with no local or systemic safety concerns and few adverse events reported in the long-term follow-up. KUR-111 did not cause ectopic bone formation (proliferation of bone in an abnormal place) and did not cement the bone defect, avoiding long-term safety concerns.

Clinical trial development and projected regulatory timelines
Kuros is in preparation for phase III development for KUR-111. The company is in discussion with key opinion leaders, and will progress discussions with the regulatory authorities on how to conduct the phase III trials. It is likely that KUR-111 will have to establish safety and efficacy in a phase III program that mimics the phase IIb dose-finding trial, albeit with larger patient populations in the US and Europe. At the same time Kuros is also preparing a manufacturing upgrade to meet the ongoing stringent regulatory manufacturing requirements and to potentially boost yields. We believe phase III development could start in 2019 allowing for first launches in 2022.

CHF 600 mn peak sales potential for bone graft substitute KUR-111
Our detailed KUR-111 forecasts are based on two major regions: Europe and the US. We assume Kuros develops KUR-111 up to phase III development and then signs on a commercialization partner to market KUR-111 in return for a CHF 15 mn upfront, a CHF 10 mn launch, and up to CHF 50 mn sales milestone payments, and a 25% royalty rate on sales for each region. We assume KUR-111 should enjoy patent protection and market exclusivity until at least 10 years from approval. Although substantial upside beyond this period is plausible, given the high entry barriers and development timelines for biosimilars, we have conservatively excluded any value beyond 10-years from market launch in our forecasts.

Europe: We believe peak sales could amount to CHF 300 mn, assuming a single kit price of EUR 2,500 per treatment in the EU. There are an estimated 1.3 mn bone graft procedures, of which 60% are non-spine bone graft procedures, resulting in a target market of 780,000 procedures per year, conservatively growing at 2% per year. We expect a 2022 global launch and peak penetration conservatively reaching 10%. COGS are assumed to start at around 22% of sales and gradually decline to 13%. We have accounted for royalty payments to Baxter and Biomatlante in our COGS.
US: Peak sales in the US are expected to be similar to Europe amounting to CHF 301 mn based on a single kit treatment price of USD 3,500 per procedure. Of the estimated 1.4 mn bone graft procedures per year, roughly 45% are non-spine bone graft procedures resulting in a target market of 630,000 procedures per year, conservatively growing at 2% per year. We conservatively assume the same 10% peak penetration as in Europe. COGS, which include royalty payments to Baxter and Biomatlante, are expected to be slightly lower than in Europe due to the higher selling price, starting at around 20% and gradually declining to 11%.

Based on global peak sales amounting to CHF 601 mn in 2032, a success rate of 52%, (a 80% probability of moving into phase III development with a 65% historical success rate) and a WACC of 7% we derive a risk-adjusted NPV of CHF 128 mn. Adjusting for an 18% share dilution to raise CHF 25 mn to fund the KUR-111 and KUR-113 development plans, this amounts to a risk-adjusted NPV of CHF 21.40 per share.

For our detailed forecasts, including a sensitivity analysis, see the following page.

Forecasts & Sensitivity Analysis

KUR-111 - FINANCIAL FORECASTS FOR BONE GRAFT SUBSTITUTE

INDICATION	BONE FRACTURES WHERE A BONE GRAFT IS NEEDED TO FILL VOIDS/DEFECTS THAT MAY BE TOO LARGE OR COMPLEX TO HEAL NATURALLY
DOSAGE	1 KIT PER PROCEDURE
PRICE	EU: EUR 2,500 PER KIT; US: USD 3,500 PER KIT
STANDARD OF CARE	CURRENT BONE GRAFT SOLUTIONS INCLUDE AUTOGRAFT, ALLOGRAFT, DEMINERALIZED BONE MATRIX (DBM), AND SYNTHETIC SCAFFOLDS
UNIQUE SELLING POINT	EASY-TO-USE PASTE WITH 3 KEY COMPONENTS: 1) FIBRIN TO ALLOW FOR NATURAL HEALING; 2) PTH* TO ENHANCE HEALING; 3) CERAMIC COMPONENT TO PROVIDE STABILITY; NO NEED FOR AUTOGRAFT & BONE HARVESTING WITH ASSOCIATED COSTS & RISKS * PTH = PARATHYROID HORMONE

7Ps ANALYSIS

PATENT	"TG HOOK" PATENT FAMILY PROVIDE PROTECTION UP TO MID 2020'S + 6 + 3 YEARS US EXCLUSIVITY; EU: 10-YEAR DATA EXCLUSIVITY
PHASE	PHASE IIB COMPLETED; DISCUSSING PHASE III DEVELOPMENT PROGRAM WITH REGULATORY AUTHORITIES AND KOL'S
PATHWAY	NDA (NEW DRUG APPLICATION) ROUTE: TWO POSITIVE PHASE III TRIALS THAT DEMONSTRATE A POSITIVE BENEFIT /RISK PROFILE
PATIENT	SAME EFFICACY AS "GOLD STANDARD" AUTOGRAFT WITHOUT THE NEED OF ADDITIONAL BONE HARVESTING SURGERY
PHYSICIAN	EASY-TO-USE PASTE THAT PERFECTLY FILLS FRACTURE VOIDS AND POLYMERIZES LOCALLY AND RESISTS COMPRESSION
PAYER	ALTERNATIVE TO "GOLD STANDARD" AUTOGRAFTS WITH SAME EFFICACY, IMPROVED SAFETY AND COMPETITIVE PRICING
PARTNER	SEEK FUNDING OR DEVELOPMENT/COMMERCIALIZATION PARTNER BEFORE STARTING PIVOTAL PHASE III TRIALS

REVENUE MODEL

EUROPE / REST OF WORLD	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
TOTAL BONE GRAFT PROCEDURES	1,300,000	1,326,000	1,352,520	1,379,570	1,407,162	1,435,305	1,464,011	1,493,291	1,523,157	1,553,620	1,584,693
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
NON-SPINE BONEGRAFT PROCEDURES (%)	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
NON-SPINE BONE GRAFT PROCEDURES	780,000	795,600	811,512	827,742	844,297	861,183	878,407	895,975	913,894	932,172	950,816
PENETRATION (%)	0%	0%	0%	0%	0%	0%	0%	1%	2%	4%	6%
BONE GRAFT PROCEDURES WITH KUR-111	0	0	0	0	0	0	0	8,960	18,278	37,287	57,049
COST PER PROCEDURE (CHF)	2,700	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745	2,745
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**50**	**102**	**157**
CHANGE (%)									104%	104%	53%
ROYALTY INCOME (25%) (CHF MN)	0	0	0	0	0	0	0	6	13	26	39
UPFRONT & MILESTONE INCOME (CHF MN)		0	0	0	0	15	0	10	0	0	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	0	0	-6	-10	-18	-21
R&D COSTS (CHF MN)	0	-1	-3	-3	-5	-5	-1	0	0	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**-1**	**-3**	**-3**	**-5**	**10**	**-1**	**11**	**3**	**8**	**18**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	-1
PROFIT (CHF MN)	**0**	**-1**	**-3**	**-3**	**-5**	**10**	**-1**	**11**	**3**	**8**	**17**

UNITED STATES	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
TOTAL BONE GRAFT PROCEDURES	1,400,000	1,428,000	1,456,560	1,485,691	1,515,405	1,545,713	1,576,627	1,608,160	1,640,323	1,673,130	1,706,592
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
NON-SPINE GRAFT PROCEDURES (%)	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
NON-SPINE BONE GRAFT PROCEDURES	630,000	642,600	655,452	668,561	681,932	695,571	709,482	723,672	738,145	752,908	767,966
PENETRATION (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1%	2%	4%	6%
BONE GRAFT PROCEDURES WITH KUR-111	0	0	0	0	0	0	0	7,237	14,763	30,116	46,078
COST PER PROCEDURE (CHF)	3,413	3,414	3,414	3,414	3,414	3,414	3,414	3,414	3,414	3,414	3,414
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**50**	**103**	**157**
CHANGE (%)									104%	104%	53%
ROYALTY INCOME (25%) (CHF MN)	0	0	0	0	0	0	0	6	13	26	39
UPFRONT & MILESTONE INCOME (CHF MN)	0	0	0	0	0	15	0	10	0	0	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	0	0	-5	-9	-16	-19
R&D COSTS (CHF MN)	0	0	0	0	-5	-5	-1	0	0	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**0**	**0**	**0**	**-5**	**10**	**-1**	**11**	**4**	**10**	**20**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	-1
PROFIT (CHF MN)	**0**	**0**	**0**	**0**	**-5**	**10**	**-1**	**11**	**4**	**10**	**19**

	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
GLOBAL SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49**	**101**	**205**	**314**
CHANGE (%)									104%	104%	53%
GLOBAL PROFIT (CHF MN)	**0**	**-1**	**-3**	**-3**	**-10**	**20**	**-2**	**22**	**6**	**17**	**36**
CHANGE (%)			100%	0%	300%	-300%	-110%	-1200%	-71%	177%	107%

WACC (%)	7.0%	
NPV TOTAL PROFIT (CHF MN)	**247**	
NUMBER OF SHARES (MN)	6.0	(DILUTED NUMBER OF SHARES TO RAISE CHF 25 MN)
NPV PER SHARE (CHF)	**41.1**	
SUCCESS PROBABILITY	52%	= 80% PROBABILITY OF MOVING INTO PHASE III DEVELOPMENT WITH 65% SUCCESS PROBABILITY
RISK ADJUSTED NPV PER SHARE (CHF)	**21.4**	

SENSITIVITY ANALYSIS

		WACC (%)							
	CHF/SHARE	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
	70%	34.3	32.3	30.5	28.7	27.1	25.6	24.2	22.9
	65%	31.8	30.0	28.3	26.7	25.2	23.8	22.5	21.2
	60%	29.4	27.7	26.1	24.6	23.3	22.0	20.7	19.6
	55%	26.9	25.4	23.9	22.6	21.3	20.1	19.0	18.0
SUCCESS PROBABILITY	52%	25.5	24.0	22.6	**21.4**	20.2	19.0	18.0	17.0
	50%	24.5	23.1	21.8	20.5	19.4	18.3	17.3	16.3
	45%	22.0	20.8	19.6	18.5	17.4	16.5	15.6	14.7
	40%	19.6	18.5	17.4	16.4	15.5	14.6	13.8	13.1
	35%	17.1	16.2	15.2	14.4	13.6	12.8	12.1	11.4

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB ESTIMATES

Unique Selling Point

A convenient, easy-to-prepare kit consisting of a paste with three key components: 1) fibrin to allow for polymerization at the site and subsequent natural healing, 2) vPTH (variant parathyroid hormone) to enhance healing, and 3) a ceramic component to provide stability; with improved safety and efficacy comparable to gold standard autograft, but without the need for bone harvesting surgery with associated costs and risks.

7P's Analysis

Patent: KUR-111 and KUR-113 should enjoy exclusivity until at least 2032 through a combination of patents and exclusivities, which includes a family of patents surrounding the TG-Hook technology (first patents expiring around mid-2020), additional patent extensions of up to 9 years; and at least 10-year data exclusivity from approval in the EU. Because both products are biologicals, due to the fibrin and PTH components, generic manufacturers will have to show biosimilarity through extensive clinical trials, providing an additional hurdle, and likely extend exclusivity far beyond our assumptions.

Phase: KUR-111 successfully completed a phase IIb dosing trial in 183 patients with tibial plateau fractures, which met its primary endpoint of statistical non-inferiority to autograft with respect to the proportion of patients who achieved radiological fracture union at 16 weeks after grafting: 84.5% of autograft and 83.6% of patients treated with the higher dose (1 mg/ml) of KUR-111 had radiological fracture healing. Secondary endpoints of efficacy were consistent with the primary endpoint e.g. a composite endpoint of CT scan and clinical healing amounted to 72% for higher dose KUR-111 and 64% for autograft. No safety issues were seen.

Pathway: NDA (New Drug Application) route, where two positive phase III trials are needed to demonstrate a positive benefit/risk profile to receive US approval. Kuros is in discussions with the FDA and key opinion leaders to finalize the phase III development program, which will largely replicate the phase IIb trial design, albeit with larger patient numbers in the US and Europe. Kuros is also in the process of a manufacturing upgrade to comply with ongoing regulatory requirements and to potentially boost yields further.

Patient: The major benefit for patients is that they do not have to undergo an additional bone harvesting surgery (typically the hip bone), with the associated inconvenience and pain of a second wound site, and risks such as infection, as is the case with autograft.

Physician: A convenient, easy-to-use and prepare paste that perfectly fills fracture voids, which polymerizes rapidly on site, and resists compression

Payer: Alternative to gold standard autograft with similar efficacy, but without the need of additional bone harvesting surgery with the associated time, risks and costs. KUR-111 has the potential to reduce overall treatment costs substantially.

Partner: Kuros plans to seek funding or a development and commercialization partner before starting the pivotal phase III trials. We conservatively assume Kuros secures CHF 25 mn funding through a financing round, leading to a 15% dilution. After completing phase III development we expect the company to sign on a commercialization partner in return for up to CHF 150 mn in upfront and sales milestones, and 25% royalties on sales.

KUR-113 (Bone Fracture Healing & Spinal Fusion)

Product Analysis

KUR-113 all indications – Risk adjusted NPV of CHF 22.40 per share

1) KUR-113 bone fracture healing: CHF 13.70/share; we forecast peak sales of CHF 300+ mn for KUR-113 in bone fracture healing. We assume a global launch for bone fracture healing in 2022, with a single treatment cost of between EUR 1,250 (EU) and USD 1,750 (US) per procedure, and a market penetration peaking at around 10% in the target population. On completion of phase III development, we assume Kuros to sign on a commercialization partner, in return for up to CHF 110 mn in upfront, launch and sales milestone payments, and 25% royalties on sales. Our risk-adjusted NPV amounts to CHF 83 mn with a 52% success rate (80% probability of moving into phase III with a historical success rate of 65%) and a WACC of 7%. Based on the current market capitalization, we conservatively assume an 18% share dilution, to raise CHF 25 mn to fund the phase III development programs for KUR-111 and KUR-113, leading to a risk-adjusted NPV of CHF 13.70 per share.

2) KUR-113 spinal fusion surgery: CHF 8.70/share; we forecast peak sales of CHF 300+ mn for KUR-113 in spinal fusion surgery. We expect a global launch in 2024 with a treatment cost per procedure ranging between EUR 3,750 (EU) and USD 5,250 (US), and a market penetration conservatively peaking at 10%. We assume Kuros to sign a similar commercialization agreement for spinal fusion as described above with bone fracture healing. Our risk-adjusted NPV amounts to CHF 52 mn with a 28% success rate (80% probability of moving into phase IIb with a 35% success rate). Based on the same dilution as above to raise the necessary development funds, our risk-adjusted NPV amounts to CHF 8.70 per share.

Improved fracture healing in a largely untapped market

KUR-113 addresses hard to heal fractures were bone grafts cannot be used, and therefore the healing process may be compromised. There is a clear medical need for this set of patients to improve healing and outcomes. KUR-113 is specifically designed to address this large, untapped market opportunity in long bone fractures such as tibial (shinbone) shaft fractures, and in spinal fusion surgery, in which two or more vertebrae are grown together using a so-called inter-body spine cage and a bone graft, to provide stability of the spine after the degenerated disc has been removed. At the moment the focus of KUR-113 is on enhanced healing of (complicated) long bone fractures, as demonstrated in a successful phase IIb dose-finding trial in patients with tibial shaft fractures. On securing sufficient funding, we expect the company to start phase III trials in this indication in 2019, which would allow for a global launch in 2022. Phase IIb trials in spinal fusion surgery could also start in 2019 with a global launch expected in 2024.

Over 1.5 mn fracture surgeries per year may have a comprised healing process

According to estimates, more than 1 mn bone fracture surgeries are carried out per year in the US. Approximately 375,000 are estimated to use a bone graft, leaving over 600,000 that do not. In Europe, it is estimated that almost 1 mn of the 1.5 mn fracture surgeries carried out per year do not use a bone graft to increase the chance of successful healing. At the moment, standard treatment of open long bone fractures (e.g. thighbone, calf bone,

shinbone, forelimb, and the radius and ulna of the forearm) is to clean (debride) the local soft tissue damage, to reduce and fixate the fracture with inter-medullary nailing or plates, and to close the wound. However, if the fracture is complex and occurs in the middle of the bone, fixating the fracture may not be sufficient to support the healing of the fracture. Often the defect remains too large to promote adequate natural bone growth. As a result many of these fractures do not heal properly, often leading to prolonged healing or no healing at all, requiring a re-operation with associated costs and risks, resulting in a significant impact on the quality of life for the patient.

Medtronic's InFuse use in fracture healing limited, providing a large opportunity

Medtronic's InFuse is currently the only product available that is applied during the surgical procedure, as an adjunct to fixation, to improve this type of fracture healing or to reduce the related complications. It was approved for tibial repair in 2008. The bulk of sales are generated in spinal fusion, where it has been available since 2002. In fracture healing, InFuse is provided as a collagen sheet, containing the potent and targeted growth factor BMP-2, that has to be wrapped around the broken bone, which disturbs the surrounding tissue. Use in tibial repair has been contained due to its high price, cumbersome application, and recent concerns around dangerous side effects, including inflammation and a possible increased cancer risk.

Different properties than KUR-111 present different opportunities for KUR-113

Kuros' KUR-111 bone graft substitute and KUR-113 are closely related, with both products utilizing the TG-Hook technology, and consist of the two key components, fibrin, for the natural healing matrix, and vPTH, the potent bone growth factor that enhances fracture healing. The main difference between the two is that KUR-113 does not need to have the structural ceramic component to provide mechanical stability during the healing process, resulting in different properties and different market opportunities than KUR-111, where mechanical stability is required. Due to the lack of the ceramic component, KUR-113 is not a moldable putty like KUR-111, but a more fluid product that can be applied directly into the fracture lines, which then polymerizes on site to form a gel-like material that infiltrates fracture sites without disturbing the surrounding tissue. This is a major advantage compared to the more cumbersome application of InFuse, which has to be wrapped around the bone, affecting the surrounding tissue. The potent, targeted bone growth factor vPTH is delivered locally at the fracture site, and is maintained through the slow, cell-mediated release of vPTH over time from the fibrin matrix. Consequently, there should be minimal systemic availability of vPTH, thereby substantially reducing the risk of unwanted off-site tissue growth such as ectopic bone formation (in places where bone should not grow) and potentially cancer. This safety aspect should be the major differentiating factor compared to InFuse.

Improved fracture healing and a reduction in re-operations shown on phase IIb trial

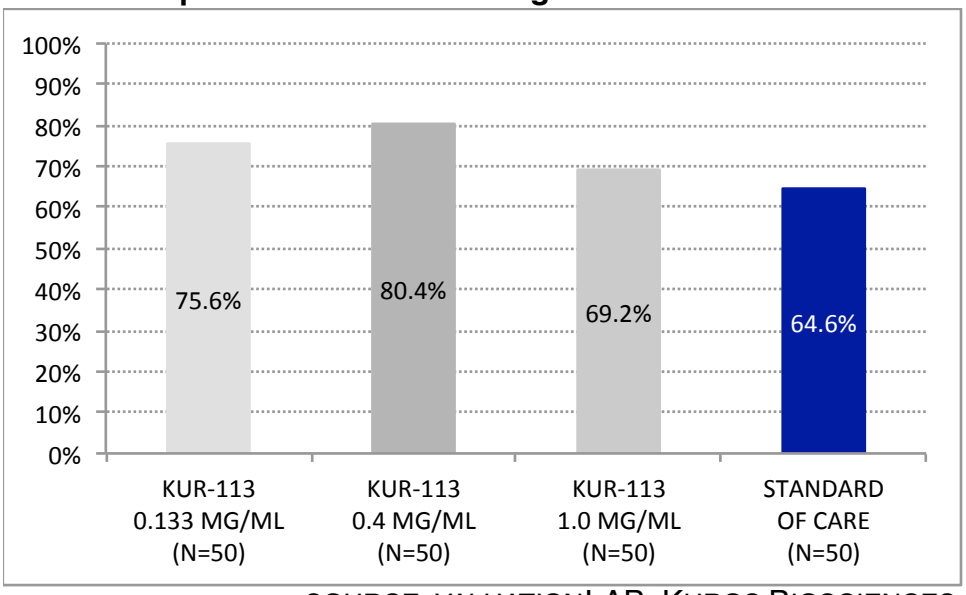
Kuros set out a high benchmark for KUR-113 in fracture healing. The company conducted a phase IIb dose-finding trial in patients with acute open tibial shaft fractures, which are typically difficult to treat with long healing times.

The tibia, or shinbone, is the most common fractured long bone. A tibial shaft fracture occurs along the length of the bone, below the knee and above the ankle. Because it generally takes a major force to break a long bone, other injuries often occur with these types of fractures. An open, or compound fracture is when the broken bone breaks through the skin. The broken tibia protrudes through a tear in the skin and other soft tissues. Such

fractures can occur when the bumper of a moving car strikes a pedestrian. These fractures often involve more damage to the surrounding muscles, tendons, and ligaments, and have a higher risk of complications and usually take a longer time to heal.

KUR-113 was evaluated in a randomized, controlled, open-label (dose-blinded) phase IIb dose-finding trial in 200 patients with acute open tibial shaft fractures in 31 centers across Europe. Three doses of KUR-113 in combination with standard of care (SOC) were compared with SOC alone. KUR-113 met its primary endpoint in improved fracture healing and reduced the re-operation rate.

KUR-113 Improved Fracture Healing

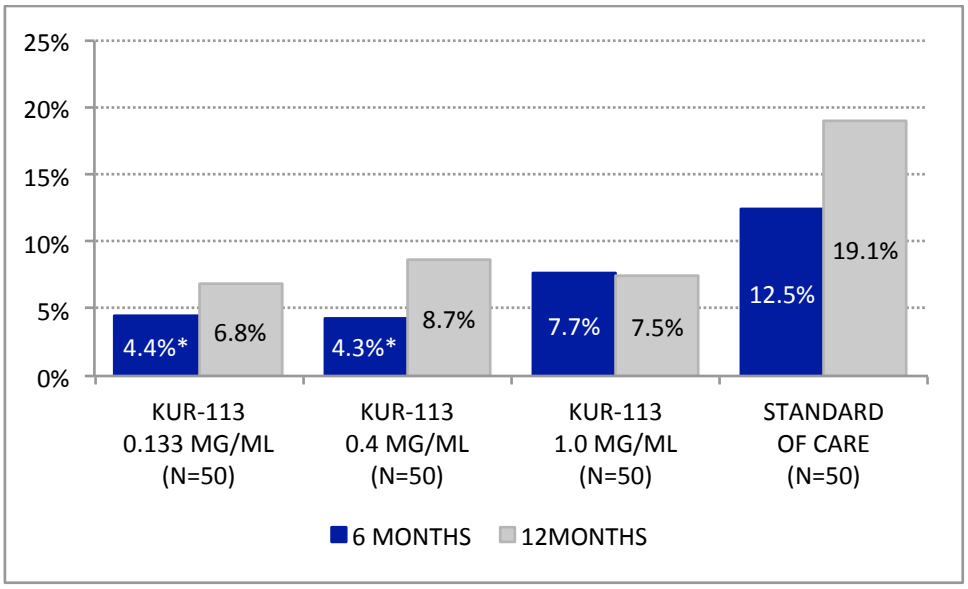


SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

The primary endpoint of this trial was the proportion of patients healed 6 months after surgical treatment by clinical assessment. In the ITT (intent-to-treat) population the healing rate at 6 months after surgery, as assessed by the investigators using radiographic and clinical criteria, was 64.6% for patients treated with SOC alone versus 75.6%, 80.4%, and 69.2% for the 0.133, 0.4 and 1.0 mg/ml KUR-113 groups, respectively, as can be seen in the table above. In the PP (per protocol) population, the healing rates were 63% in the SOC alone group versus 74%, 83%, and 75% for the 0.133, 0.4 and 1.0 mg/ml KUR-113 groups respectively. For both analyses the 0.4 mg/ml KUR-113 group had statistically significant better fracture healing than the SOC alone group. KUR-113 proved to be safe and well tolerated with no safety issues.

KUR-113 Reduces Re-Operation Rate

The phase IIb trial also reached an important secondary endpoint of successfully reducing the re-operation rate, as can be seen in table below. This so-called secondary intervention rate is the proportion of patients with secondary interventions (another surgery) due to persistent non-union (fracture not healing). In the low (0.133 mg/ml) and medium (0.4 mg/ml) dose of KUR-113, the secondary intervention rate was statistically significant at 4.4% and 4.3%, respectively, compared to 12.5% with standard of care 6 months after surgery. In all other cases the secondary intervention rate of KUR-113 was numerically superior to standard of care, 6 months and 12 months after surgery.



* STATISTICALLY SIGNIFICANT DIFFERENCE VS. STANDARD OF CARE

SOURCE: VALUATIONLAB, KUROS BIOSCIENCES

Spinal fusion presents an even larger market opportunity

The second major indication for KUR-113 is in spinal fusion surgery, an even larger market opportunity than in bone fracture healing. KUR-113 successfully concluded preclinical development in spinal fusion in 2015. The efficacy of KUR-113 in various concentrations was evaluated versus mainstay autograft and BMP-2 (bone morphogenetic protein-2) controls in spinal fusion surgery. KUR-113 demonstrated a fusion comparable to autograft and BMP-2 controls, suggesting KUR-113 could be a highly effective alternative in this indication. Clinical development in patients has not started, yet. Typically, we do not include indications without clinical proof of concept in our forecasts. We make an exception for KUR-113 as there is practically no difference in enhancing bone growth in bones of the spine or in long bones where clinical proof-of-concept has been successfully established. However, we do assume a lower 28% success rate in spinal fusion, reflecting an 80% probability of moving into phase IIb with a 35% success rate, compared to fracture healing.

Merging two or more vertebrae to relieve chronic back pain caused by the spine

Spinal fusion is a surgical procedure that can be used for patients that suffer from chronic back pain caused by the spine, due to degeneration (e.g. arthritis), trauma or instability. The spine is a flexible structure composed of alternating blocks of bone (vertebrae) interspaced with blocks of cartilage (discs). The basic idea is to fuse, or grow, two or more vertebrae together so that they heal into a single, solid bone. This is achieved by removal of the damaged disc, placement of an inter-body cage (an implant to provide internal fixation), and providing some type of bone material (e.g. bone graft or bone graft substitute) to help promote the fusion. Spinal fusion eliminates motion between vertebrae and also prevents the stretching of nerves and surrounding ligaments and muscles, thereby preventing the source of pain. Although fusion will take away some spinal flexibility, most spinal fusions involve only small segments of the spine and do not limit motion very much, particularly in the lumbar part of the spine (lower back).

Potential to expand a USD 1.2 bn annual spinal fusion market

In the US and Europe an estimated 1.3 mn spinal fusion surgeries are performed per year. Bone graft substitutes use for spinal fusion surgery in these two markets is estimated to

amount to USD 1.2 bn per year. Autograft is still used in a significant amount of cases and conversion of autograft to bone graft substitute is expected to expand the market further. Medtronic's InFuse is the market leading bone graft substitute, with the bulk of sales generated in spinal fusion surgery. Sales peaked at USD 900 mn, until safety concerns around dangerous side effects such as inflammation, ectopic bone formation, and a possible increased cancer risk, curbed the rapid sales uptake. Nevertheless, InFuse remains the largest-selling bone graft substitute in the market, as there is currently no other alternative.

An easy to use, safe, and perfect fix for spinal fusion, with the potential to surprise

Due to the relatively high cost of the procedure and the significant costs, and clinical consequences related to non-fusion, it is important to use a highly efficacious graft or bone graft substitute in order to obtain fusion. KUR-113 can be applied directly into and around an inter-body spinal cage as a gel, where it polymerizes directly at the site of the fused vertebrae. Most products on the market are solids, granules or sponges (such as InFuse), and therefore are less easy to apply and do not provide a perfect fit such as with KUR-113. Unlike many other bone graft substitutes that are on the market, Kuros plans to test KUR-113 in large well-controlled clinical studies in spinal fusion. As such KUR-113 will be amongst the very few products of this type whose efficacy will be demonstrated in patients. Consequently, KUR-113 may have higher sales potential than existing products due to its ease of use, excellent bone healing properties, and a favorable safety profile.

Clinical trial development and projected regulatory timelines

1) Bone fracture healing: in 2016, Kuros aims to have an "end of phase II talk" with the FDA to prepare for the phase III development of KUR-113. The company will then progress discussions with key opinion leaders, and initiate discussions with the European regulatory authorities on how to conduct the phase III trials. Similar to KUR-111, it is likely that KUR-111 will have to establish safety in efficacy in a phase III program that mimics the phase IIb dose-finding trial, albeit with larger patient populations in the US and Europe. Kuros is also preparing a manufacturing upgrade for KUR-113 to meet the ongoing stringent regulatory manufacturing requirements and to potentially boost yields. We believe phase III trials of KUR-113 could start in 2019 allowing for first launches in 2022.

2) Spinal fusion surgery: a full preclinical development program has been completed, including primates, and has been presented to the FDA. On securing sufficient funding and agreement on the final phase III clinical trial design of KUR-113 in bone healing, the company plans to start phase IIb dose-finding trials in spinal fusion. We believe phase IIb development could start in 2019, followed by phase III development in 2021 and first launches in 2024.

CHF 800+ mn peak sales potential for KUR-113 in fracture healing and spinal fusion

Our detailed forecasts for KUR-113 are based on bone fracture healing and spinal fusion in the two major regions, Europe and the US. We assume Kuros develops KUR-113 up to phase III development in each indication and then signs on a commercialization partner in return for a CHF 15 mn upfront, a CHF 10 mn launch, and up to CHF 55 mn sales milestone payments, and a 25% royalty rate on sales, for each region. We assume KUR-113 should enjoy patent protection and market exclusivity until at least 10 years from launch. Although substantial upside beyond this period is plausible, given the high entry barriers and development timelines for biosimilars, we have conservatively excluded any value beyond 10-years from market launch in our forecasts.

1) Bone fracture healing – Risk-adjusted NPV of CHF 13.70 per share

Europe: We believe peak sales could amount to CHF 187 mn, assuming a single kit price of EUR 1,250 per procedure in the EU. The number of fracture surgeries per year is estimated at 1.5 mn growing annually at 2%, of which 65% do not require a bone graft procedure, resulting in a target market of ~1 mn procedures per year. We expect a 2022 global launch and peak penetration conservatively reaching 10%. COGS are assumed to start at around 22% of sales and gradually decline to 13%. In our COGS, we have accounted for royalty payments to Baxter, the Zurich universities ETHZ and UHZ, and Caltech.

US: Peak sales in the US are expected to amount to CHF 149 mn, based on a single kit treatment price of USD 1,750 per procedure. Of the estimated 1 mn bone graft surgeries per year growing annually at 2%, an estimated 63% do not require bone grafting resulting in a target market of 625,000 procedures per year. We conservatively assume the same 10% peak penetration as in Europe. COGS, which include royalty payments to Baxter and Biomatlante, are expected to be slightly lower than in Europe due to the higher selling price, starting at around 20% and gradually declining to 11%.

Based on global peak sales amounting to CHF 337 mn in 2032, a success rate of 52%, (a 80% probability of moving into phase III with a 65% success rate) and a WACC of 7% we derive a risk-adjusted NPV of CHF 83 mn. Adjusting for an 18% share dilution to raise CHF 25 mn to fund the KUR-111 and KUR-113 development plans, this amounts to a risk-adjusted NPV of CHF 13.70 per share.

2) Spinal fusion surgery – Risk-adjusted NPV of CHF 8.70 per share

Europe: We believe peak sales could amount to CHF 213 mn, assuming a single kit price of EUR 2,500, and an average 1 ½ kits per procedure, resulting in an average treatment cost of EUR 3,750 per procedure. We assume 625,000 spinal procedures per year, conservatively growing at 3% per annum. We expect a 2022 global launch and peak penetration conservatively reaching 10%. COGS are assumed to start at around 16% of sales and gradually decline to 9%, accounting for royalty payments to Baxter, the Zurich universities ETHZ and UHZ, and Caltech.

US: Peak sales are expected to amount to CHF 296 mn, based on an average treatment price of USD 5,250 per procedure (1 ½ kits at USD 3,500 per kit). We assume 700,000 spinal fusion procedures per year growing at the same conservative 3% annual growth rate and 10% peak penetration as in Europe. COGS, including the royalty payments, should be lower than in Europe due to the higher selling price in the US, starting at around 15% and gradually declining to 8%.

We derive a risk-adjusted NPV of CHF 52 mn for KUR-113 in spinal fusion, based on global peak sales of CHF 509 mn, and a success probability of 28% (an 80% probability of moving into phase IIb with a 35% success probability). Adjusting for an 18% share dilution to raise the CHF 25 mn development funds, we calculate a risk-adjusted NPV of CHF 8.70 per share.

For our detailed forecasts for both indications, including a sensitivity analysis, see the following two pages.

Forecasts & Sensitivity Analysis

KUR-113 - FINANCIAL FORECASTS FOR BONE FRACTURE HEALING

INDICATION	ADJUNCT TO FIXATION IN COMPLEX BONE FRACTURES THAT ARE HARD TO HEAL AND WHERE BONE GRAFTS CANNOT BE USED
DOSAGE	1 KIT PER PROCEDURE
PRICE	EU: EUR 1,250 PER KIT; US: USD 1,750 PER KIT
STANDARD OF CARE	MEDTRONIC'S "INFUSE" IS ONLY PRODUCT AVAILABLE FOR THIS SURGICAL PROCEDURE, WHICH IS WRAPPED AROUND THE BROKEN BONE
UNIQUE SELLING POINT	EASY-TO-APPLY AND CONVENIENT GEL THAT INFILTRATES FRACTURE SITES AND SOLIDIFIES LOCALLY, CONTAINING: 1) FIBRIN THAT ALLOWS NATURALLY HEALING, AND; 2) VPTH (VARIANT PARATHYROID), A BONE GROWTH FACTOR, TO ENHANCE FRACTURE HEALING AND RECOVERY

7Ps ANALYSIS

PATENT	"TG HOOK" PATENT FAMILY PROVIDE PROTECTION UP TO MID 2020'S + 6 + 3 YEARS US EXCLUSIVITY; EU: 10-YEAR DATA EXCLUSIVITY
PHASE	PHASE IIB SUCCESSFULLY COMPLETED; END OF PHASE II TALK WITH FDA IN 2016 TO DETERMINE PHASE III DEVELOPMENT PROGRAM
PATHWAY	NDA (NEW DRUG APPLICATION) ROUTE: TWO POSITIVE PHASE III TRIALS THAT DEMONSTRATE A POSITIVE BENEFIT /RISK PROFILE
PATIENT	HIGHER AND FASTER HEALING RATES LEADING TO A SIGNIFICANT IMPROVEMENT IN THE QUALITY OF LIFE AND LESS DOCTOR VISITS
PHYSICIAN	EASY-TO-APPLY AND CONVENIENT GEL THAT LEADS TO HIGHER FRACTURE HEALING RATES, LESS COMPLICATIONS AND REPEAT SURGERIES
PAYER	LOWER OVERALL TREATMENT COSTS DUE TO HIGHER FRACTURE HEALING RATES, LESS REPEAT SURGERIES, AND FASTER HEALING TIMES
PARTNER	SEEK FUNDING OR DEVELOPMENT/COMMERCIALIZATION PARTNER BEFORE STARTING PIVOTAL PHASE III TRIALS

REVENUE MODEL

EUROPE	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
NUMBER OF FRACTURE SURGERIES	1,500,000	1,530,000	1,560,600	1,591,812	1,623,648	1,656,121	1,689,244	1,723,029	1,757,489	1,792,639	1,828,492
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
NO BONE GRAFT PROCEDURE (%)	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
NO BONE GRAFT PROCEDURES	975,000	994,500	1,014,390	1,034,678	1,055,371	1,076,479	1,098,008	1,119,969	1,142,368	1,165,215	1,188,520
PENETRATION (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	4.0%	6.0%	8.0%
PROCEDURES WITH KUR-113	0	0	0	0	0	0	0	11,200	45,695	69,913	95,082
COST PER PROCEDURE (CHF)	1,350	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372	1,372
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**63**	**96**	**130**
CHANGE (%)									308%	53%	36%
ROYALTY INCOME (25%) (CHF MN)	0	0	0	0	0	0	0	4	16	24	33
UPFRONT & MILESTONE INCOME (CHF MN)	0	0	0	0	0	0	15	10	0	0	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	0	0	-3	-13	-17	-18
R&D COSTS (CHF MN)	0	-1	-1	-1	-5	-5	-1	0	0	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**-1**	**-1**	**-1**	**-5**	**-5**	**14**	**10**	**3**	**7**	**15**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	-1
PROFIT (CHF MN)	**0**	**-1**	**-1**	**-1**	**-5**	**-5**	**14**	**10**	**3**	**7**	**14**

UNITED STATES	**2015E**	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
NUMBER OF FRACTURE SURGERIES	1,000,000	1,020,000	1,040,400	1,061,208	1,082,432	1,104,081	1,126,162	1,148,686	1,171,659	1,195,093	1,218,994
GROWTH (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
NO BONE GRAFT PROCEDURE (%)	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%	63%
NO BONE GRAFT PROCEDURES	625,000	637,500	650,250	663,255	676,520	690,051	703,852	717,929	732,287	746,933	761,872
PENETRATION (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	4.0%	6.0%	8.0%
PROCEDURES WITH KUR-113	0	0	0	0	0	0	0	7,179	29,291	44,816	60,950
COST PER PROCEDURE (CHF)	1,706	1,707	1,707	1,707	1,707	1,707	1,707	1,707	1,707	1,707	1,707
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**50**	**76**	**104**
CHANGE (%)									308%	53%	36%
ROYALTY INCOME (25%) (CHF MN)	0	0	0	0	0	0	0	3	12	19	26
UPFRONT & MILESTONE INCOME (CHF MN)	0	0	0	0	0	0	15	10	0	0	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	0	0	-2	-9	-12	-12
R&D COSTS (CHF MN)	0	0	0	0	-5	-5	-1	0	0	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**0**	**0**	**0**	**-5**	**-5**	**14**	**11**	**4**	**7**	**14**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	-1
PROFIT (CHF MN)	**0**	**0**	**0**	**0**	**-5**	**-5**	**14**	**11**	**4**	**7**	**13**

	2015E	**2016E**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
GLOBAL SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**113**	**172**	**235**
CHANGE (%)									308%	53%	36%
GLOBAL PROFIT (CHF MN)	**0**	**-1**	**-1**	**-1**	**-10**	**-10**	**28**	**21**	**7**	**15**	**27**
CHANGE (%)			100%	0%	900%	0%	-380%	-25%	-67%	110%	85%

WACC (%)	7.0%	
NPV TOTAL PROFIT (CHF MN)	**159**	
NUMBER OF SHARES (MN)	6.0	(DILUTED NUMBER OF SHARES TO RAISE CHF 25 MN)
NPV PER SHARE (CHF)	**26.4**	
SUCCESS PROBABILITY	52%	= 80% PROBABILITY OF MOVING INTO PHASE III DEVELOPMENT WITH 65% SUCCESS PROBABILITY
RISK ADJUSTED NPV PER SHARE (CHF)	**13.7**	

SENSITIVITY ANALYSIS

		WACC (%)							
	CHF/SHARE	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
	70%	21.9	20.7	19.6	18.5	17.5	16.6	15.7	14.8
	65%	20.3	19.2	18.2	17.2	16.2	15.4	14.6	13.8
	60%	18.8	17.7	16.8	15.8	15.0	14.2	13.4	12.7
	55%	17.2	16.3	15.4	14.5	13.7	13.0	12.3	11.7
SUCCESS PROBABILITY	52%	16.3	15.4	14.5	**13.7**	13.0	12.3	11.6	11.0
	50%	15.6	14.8	14.0	13.2	12.5	11.8	11.2	10.6
	45%	14.1	13.3	12.6	11.9	11.2	10.6	10.1	9.5
	40%	12.5	11.8	11.2	10.6	10.0	9.5	9.0	8.5
	35%	10.9	10.3	9.8	9.2	8.7	8.3	7.8	7.4

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB ESTIMATES

Forecasts & Sensitivity Analysis

KUR-113 - FINANCIAL FORECASTS FOR SPINAL FUSION SURGERY

INDICATION	ADJUNCT TO SPINAL FUSION SURGERY TO IMPROVE HEALING RATES, SAFETY AND RECOVERY TIME
DOSAGE	1 1/2 KIT PER PROCEDURE
PRICE	EU: EUR 2,500 PER KIT; US: USD 3,500 PER KIT
STANDARD OF CARE	AUTOGRAFT, STEM CELL CONTAINING PRODUCTS (E.G. "OSTEOCEL PLUS"), BIOLOGIC CONTAINING PRODUCTS (E.G. "INFUSE")
UNIQUE SELLING POINT	CONVENIENT GEL THAT CAN BE APPLIED DIRECTLY INTO AND AROUND AN INTER-BODY SPINAL CAGE THAT POLYMERIZES LOCALLY, COMPARED TO MOST IN-MARKET PRODUCTS, WHICH ARE SOLIDS, GRANULES OR SPONGES AND MORE DIFFICULT TO APPLY

7Ps ANALYSIS

PATENT	"TG HOOK" PATENT FAMILY PROVIDE PROTECTION UP TO MID 2020'S + 6 + 3 YEARS US EXCLUSIVITY; EU: 10-YEAR DATA EXCLUSIVITY
PHASE	PHASE IIB DOSING TRIALS TO START ONCE MANUFACTURING UPGRADE COMPLETED AND FUNDING HAS BEEN SECURED
PATHWAY	NDA (NEW DRUG APPLICATION) ROUTE: TWO POSITIVE PHASE III TRIALS THAT DEMONSTRATE A POSITIVE BENEFIT /RISK PROFILE
PATIENT	HIGHER AND FASTER HEALING RATES LEADING TO A SIGNIFICANT IMPROVEMENT IN THE QUALITY OF LIFE AND LESS DOCTOR VISITS
PHYSICIAN	CONVENIENT GEL THAT POLYMERIZES LOCALLY IN THE INTRA-BODY CAGE WITH PROVEN CLINICAL EFFICACY IN SPINAL FUSION SURGERY
PAYER	PROVEN CLINICAL EFFICACY IN SPINAL FUSION LEADING TO LOWER OVERALL TREATMENT COSTS DUE TO HIGHER HEALING RATES
PARTNER	SEEK FUNDING OR DEVELOPMENT/COMMERCIALIZATION PARTNER BEFORE STARTING PHASE IIB DOSING TRIALS

REVENUE MODEL

EUROPE / REST OF WORLD	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
SPINAL FUSION PROCEDURES	625,000	643,750	663,063	682,954	703,443	724,546	746,283	768,671	791,731	815,483	839,948
GROWTH (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
PENETRATION (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	2.0%
SPINAL PROCEDURES WITH KUR-113	0	0	0	0	0	0	0	0	0	4,077	16,799
COST PER PROCEDURE (CHF)	4,050	4,117	4,117	4,117	4,117	4,117	4,117	4,117	4,117	4,117	4,117
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**69**
CHANGE (%)											312%
ROYALTY INCOME (25%) (CHF MN)	0	0	0	0	0	0	0	0	0	4	17
UPFRONT & MILESTONE INCOME (CHF MN)		0	0	0	0	0	0	15	0	10	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	0	0	0	0	-3	-9
R&D COSTS (CHF MN)	0	0	-1	-5	-10	-5	-5	-5	-1	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**0**	**-1**	**-5**	**-10**	**-5**	**-5**	**10**	**-1**	**11**	**9**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT (CHF MN)	**0**	**0**	**-1**	**-5**	**-10**	**-5**	**-5**	**10**	**-1**	**11**	**8**

UNITED STATES	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
SPINAL FUSION PROCEDURES	700,000	721,000	742,630	764,909	787,856	811,492	835,837	860,912	886,739	913,341	940,741
GROWTH (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
PENETRATION (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	2.0%
SPINAL PROCEDURES WITH KUR-113	0	0	0	0	0	0	0	0	0	4,567	18,815
COST PER PROCEDURE (CHF)	5,119	5,121	5,121	5,121	5,121	5,121	5,121	5,121	5,121	5,121	5,121
SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**96**
CHANGE (%)											312%
ROYALTY INCOME (25%) (CHF MN)	0	0	0	0	0	0	0	0	0	6	24
UPFRONT & MILESTONE INCOME (CHF MN)	0	0	0	0	0	0	0	15	0	10	0
COGS (INCL. ROYALTY PAYMENTS) (CHF MN)	0	0	0	0	0	0	0	0	0	-3	-11
R&D COSTS (CHF MN)	0	0	0	0	0	0	-5	-5	-1	0	0
M&S COSTS (CHF MN)	0	0	0	0	0	0	0	0	0	0	0
PROFIT BEFORE TAX (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**-5**	**10**	**-1**	**12**	**13**
TAXES (CHF MN)	0	0	0	0	0	0	0	0	0	0	-1
PROFIT (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**-5**	**10**	**-1**	**12**	**13**

	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
GLOBAL SALES (CHF MN)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**40**	**166**
CHANGE (%)											312%
GLOBAL PROFIT (CHF MN)	**0**	**0**	**-1**	**-5**	**-10**	**-5**	**-10**	**20**	**-2**	**24**	**21**
CHANGE (%)				400%	100%	-50%	100%	-300%	-110%	-1297%	-12%

WACC (%)	7.0%	
NPV TOTAL PROFIT (CHF MN)	**187**	
NUMBER OF SHARES (MN)	6.0	(DILUTED NUMBER OF SHARES TO RAISE CHF 25 MN)
NPV PER SHARE (CHF)	**31.1**	
SUCCESS PROBABILITY	28%	= 80% PROBABILITY OF MOVING INTO PHASE IIB DEVELOPMENT WITH 35% SUCCESS PROBABILITY
RISK ADJUSTED NPV PER SHARE (CHF)	**8.7**	

SENSITIVITY ANALYSIS

		WACC (%)							
	CHF/SHARE	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
	45%	17.0	15.9	14.9	14.0	13.1	12.3	11.6	10.8
	40%	15.1	14.1	13.3	12.4	11.7	10.9	10.3	9.6
	35%	13.2	12.4	11.6	10.9	10.2	9.6	9.0	8.4
	30%	11.3	10.6	9.9	9.3	8.7	8.2	7.7	7.2
SUCCESS PROBABILITY	28%	10.6	9.9	9.3	**8.7**	8.2	7.7	7.2	6.7
	25%	9.4	8.8	8.3	7.8	7.3	6.8	6.4	6.0
	20%	7.5	7.1	6.6	6.2	5.8	5.5	5.1	4.8
	15%	5.7	5.3	5.0	4.7	4.4	4.1	3.9	3.6
	10%	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4

ESTIMATES AS OF 27 JUNE 2016

SOURCE: VALUATIONLAB ESTIMATES

Unique Selling Point

A convenient, easy-to-prepare kit consisting of a gel with two key components: 1) fibrin, to allow for polymerization at the site and subsequent natural healing, and 2) vPTH (variant parathyroid hormone), to enhance bone healing in patients were a bone graft is not used.

7P's Analysis

Patent: KUR-111 and KUR-113 should enjoy exclusivity until at least 2032 through a combination of patents and exclusivities, which includes a family of patents surrounding the TG-Hook technology (first patents expiring around mid-2020), additional patent extensions of up to 9 years; and at least 10-year data exclusivity from approval in the EU. Because both products are biologicals, due to the fibrin and PTH components, generic manufacturers will have to show biosimilarity through extensive clinical trials from scratch, providing an additional hurdle, and likely extend exclusivity far beyond our assumptions.

Phase: KUR-113 successfully completed a phase IIb dosing trial in 200 patients with a open acute tibial shaft fractures, which met its primary endpoint of demonstrating a higher healing rate of 80.4% for the 0.4 mg/ml group compared to 64.6% for standard-of-care, at 6 months after surgery as assessed by investigators using radiographic and clinical criteria. KUR-113 also lowered the rate of repeat surgeries. No safety issues were seen. Moreover, KUR-113 successfully completed preclinical development in spinal fusion surgery with efficacy similar to current treatment options.

Pathway: NDA (New Drug Application) route, where a phase III program is needed to demonstrate a positive benefit/risk profile to receive US approval. Kuros is in discussions with the FDA and key opinion leaders to finalize the phase III development program, which will largely replicate the phase IIb trial design, albeit with larger patient numbers. Kuros is also in the process of a manufacturing upgrade to comply with ongoing regulatory requirements and to potentially boost yields further.

Patient: The major benefit for patients is that their bone fracture heals faster, with less risk of re-operation, leading to a significant improvement in quality of life and health economic benefits including loss of time at work.

Physician: Easy-to-use and prepare gel that perfectly fills fracture voids, which polymerizes rapidly on site, and leads to faster healing rates and lower repeat surgeries. Only Medtronic's InFuse is approved for this indication but has a more cumbersome application, while there are increasing fears of dangerous side effects, such as inflammation and cancer.

Payer: KUR-113 has the potential to reduce overall treatment costs substantially due to higher healing rates and lower repeat surgeries, with a significant impact on the quality of life for patients.

Partner: Kuros plans to seek funding or a development and commercialization partner before starting the pivotal phase III trials. We conservatively assume Kuros secures CHF 25 mn funding through a financing round, leading to a 15% dilution. After completing phase III development, we expect the company to sign on a commercialization partner in return for up to CHF 110 mn in upfront and sales milestones, and 25% royalties on sales.

Orthobiologics Market

The global orthobiologics market in 2013 was valued at USD 3.7 bn, and is expected to reach USD 5.8 bn by 2018 (CAGR of 5.9%), according to Markets and Markets. The market is mainly driven by advancements in implant technologies and shifting demand from mechanical to biological solutions. Underlying growth factors include the ageing population, an increase in obesity, chronic arthritis, traffic accidents, and sport-related injuries. Autograft remains the gold standard accounting for roughly 40% of procedures. Bone graft substitutes were the fastest growing segment and its share is expected to increase thanks to the development of effective growth factor enhanced grafts, which reduce the chance of infection, rejection, bleeding and nerve injury compared to autografts. Factors that may hamper market growth are the high overall cost of procedures leading to reimbursement issues for orthobiologics that lack reliable clinical evidence, and a stringent regulatory approval pathway for new products.

Key players include Medtronic, DePuy Synthes (Johnson & Johnson), Stryker, Zimmer, Biomet and others, including many emerging biopharmaceutical companies. A further consolidation of the market is expected caused by increasing regulatory hurdles and costs, and to provide a one-stop shop for large purchasers.

ORTHOBIOLOGICS - KEY FACTS	
MARKET SIZE	USD ~4 BN IN 2013 AND EXPECTED TO GROW TO USD ~6 BN IN 2018 (CAGR OF ~6%); GROWTH DRIVEN BY AN INCREASE IN TRAFFIC ACCIDENTS, SPORT-RELATED INJURIES, OBESITY, DISEASE BURDEN OF CHRONIC ARTHRITIS, AND THE RAPIDLY AGING POPULATION
PREVALENCE	~50 MN FRACTURES, ~8 MN FRACTURE SURGERIES, ~ 2.5 FRACTURES DO NOT HEAL PROPERLY
UNDERLYING CAUSE	BONE GENERALLY HAS THE ABILITY TO REGENERATE COMLETELY, BUT REQUIRES A SMALL FRACTURE SPACE OR SOME SORT OF SCAFFOLD TO BRIDGE THE GAP TO GROW TOGETHER.
THREE KEY FACTORS FOR HEALING	1) MATRIX (A CONDUCTIVE MATERIAL WHERE CELLS CAN MAKE BONE, TENDON OR LIGAMENT) 2) GROWTH FACTORS (MANY KINDS OF PROTEINS TO CONTROL THE HEALING PROCESS) 3) STEM CELLS (SPECIAL CELLS IN THE BODY THAT CAN TURN INTO OTHER TYPES OF CELLS, SUCH AS BONE CELLS)
BONE GRAFTS (TYPES/KEY BRANDS)	1) AUTOGRAFTS (CANCELLOUS, CORTICOL, VASCULARIZE BONE, BONE MARROW ASPIRATE, PLATELET-RICH PLASMA) 2) ALLOGRAFTS (CANCELLOUS, CORTICAL, DEMINERALIZED BONE MATRIX E.G. DBX, GRAFTON DBM) 3) BONE GRAFT SUBSTITUTES: - SYNTHETICS (E.G. MASTERGRAFT, VITOSS, ACTIFUSE, OSTEOSET, BONEPLAST, OSTEOMAX, STIMULAN, NORIAN SRS, BONESOURCE, COPIOS, ALLOGRAM-R, CELLPLEX, CERASORPB) - STEM CELL PRODUCTS (TRINITY ELITE, OSTEOCEL PLUS, BIO4) - RHBMP'S (RECOMBINANT HUMAN BONE MORPHOGENIC PROTEINS) (INFUSE)
MAJOR PLAYERS (KEY BRANDS)	- MEDTRONIC (MASTERGRAFT, INFUSE) - DEPUY SYNTHES (DBX, NORIAN SRS, ALPHA-BSM, CHRON OS, CONDUIT) - STRYKER (BONESOURCE, BIO4) - BIOMET ZIMMER (BONE PLAST, MIMIX, PRO OSTEON, COPIOS) - DEPUY SYNTHES (DBX, NORIAN SRS, ALPHA-BSM, CHRON OS, CONDUIT) - NUVASIVE (OSTEOCEL PLUS) - ORTHOFIX (TRINITY ELITE, OSTEOMAX) - BAXTER INTERNATIONAL (ACTIFUSE) - WRIGHT MEDICAL GROUP (OSTEOSET,CELLPLEX) - ORTHOVITA (VITOSS) - BIOHORIZONS (GRAFTON DBM)

SOURCE: VALUATIONLAB, NIH, AAOS, ORGANOGENESIS, COMPANY REPORTS

Orthobiologics are substances that orthopedic surgeons use to help injuries heal more quickly. They are used to improve the healing of broken bones and injured muscles, tendons, and ligaments. These products are made from substances that are naturally found in human body (biologics), and when used in higher concentrations, may help speed up the healing process and recovery, and reduce the number of hospital visits.

When a bone, muscle or tendon is injured, there is bleeding into the injured area that is the foundation for the healing response. The blood flow provides a way for healing factors to reach the injury sites. In addition to bleeding, **three factors are necessary for healing**, which are orthobiologic substances:

1) **Matrix:** this is a conductive material that forms a scaffold in which the cells live and thrive and where they will eventually make bone, tendon or ligament, which are the building blocks that help fill and repair the bone gaps.
2) **Growth factors:** the many kinds of proteins necessary for cells to work during the healing process, of which some speed up the process, while others help to control it or slow it down.
3) **Stem cells:** these are special cells in the body that can turn into other types of cells, such as bone cells. During the healing process stem cells are called to the area that needs repair. Factors in the area influence the stem cells to become repair cells.

Bone grafting is a surgical procedure that replaces missing bone in order to repair bone fractures that are extremely complex, pose a significant health risk to the patient, or fail to heal properly. Bone generally has the ability to regenerate completely but requires a very small fracture space or some sort of scaffold to bridge the gap to grow together. Most bone grafts are designed to be reabsorbed and replaced as the natural bone heals over a few months' time. There are three main types of bone grafting:

1) **Autograft**: a bone harvested from the non-essential bones from a patient's own body, often from the hipbone. Considered the golden standard with no product cost. Requires additional "harvesting" surgery with associated risks of infection, pain, and costs.
2) **Allograft**: a cadaveric bone usually obtained from a bone bank, where bone tissue can be donated upon death. It avoids the risk of a harvesting surgery.
3) **Substitutes**: from man-made material, often made of calcium phosphate/sulfate or other naturally occurring and biocompatible substances with similar mechanical properties to bone. Several include bone growth factors to induce bone cell growth and healing.

Growth factor enhanced grafts are produced using recombinant DNA technology. They consist of human growth factors such as PDGF (platelet-derived growth factor), BMP-2 and -7 (bone morphogenetic proteins, a member of the TGF-beta family) or PTH (parathyroid hormone) in conjunction with a carrier medium, such as collagen.

The biologic processes behind bone grafting include, **osteogenesis** (the synthesis of new bone by donor cells derived from either the host or graft), **osteoconduction** (the process by which an implanted scaffold passively allows ingrowth of host vasculature, mesenchyl stem cells (MSC's), and tissue), and **osteoinduction** (the process by which exogenous growth factors (e.g. bone morphogenetic proteins – BMP's) promote host MSC's to form osteoblasts that begin new bone formation).

Bone graft substitutes is fastest growing segment driven by innovation & safety

Allografts possess both osteoinductive and osteoconductive properties, and therefore serve as a substitute for autograft. Allografts are readily available in various shapes and sizes that can be processed in various forms such as chips and others as per requirement. Growth factor enhanced bone graft substitutes (BMP segment) is the fastest growing segment of the market, primarily driven by advantages over allograft tissues, with a potential risk of disease transmission, morbidity and availability. Factors such as an increasing number of spinal fusion and joint reconstruction due to a rising geriatric population, and the launch of innovative products are the major factors supporting the growth of this segment.

Income Statement

KUROS BIOSCIENCES — SHARE PRICE (CHF) 26.90

IFRS

INCOME STATEMENT (CHF MN)	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
PRODUCT SALES (BY PARTNERS)	**0**	**0**	**2**	**12**	**23**	**34**	**51**	**144**	**299**	**517**	**887**
CHANGE (%)				386%	94%	49%	51%	181%	108%	73%	72%
ROYALTY INCOME	**0**	**0**	**1**	**3**	**7**	**10**	**15**	**39**	**79**	**134**	**214**
CHANGE (%)				386%	94%	49%	51%	156%	101%	70%	59%
UPFRONT & MILESTONE INCOME	**0**	**1**	**5**	**5**	**0**	**35**	**30**	**75**	**0**	**20**	**0**
CHANGE (%)			400%	0%	-100%		-14%	150%	-100%		-100%
OTHER REVENUES	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
REVENUES (EXCL. PARTNER SALES)	**6.4**	**1.0**	**5.7**	**8.5**	**6.8**	**45.1**	**45.3**	**114.3**	**79.1**	**154.2**	**213.7**
CHANGE (%)	536%	-84%	472%	49%	-20%	566%	0%	152%	-31%	95%	39%
COGS (INCL. ROYALTY PAYMENTS)	**0.0**	**0.0**	**-0.6**	**-2.7**	**-4.9**	**-6.8**	**-9.4**	**-27.3**	**-53.5**	**-80.4**	**-102.5**
CHANGE (%)				386%	77%	40%	39%	189%	96%	50%	28%
GROSS PROFIT	**6.4**	**1.0**	**5.1**	**5.3**	**1.1**	**37.2**	**34.1**	**82.7**	**17.2**	**63.4**	**111.6**
CHANGE (%)	536%	-84%	407%	5%	-79%	3191%	-8%	143%	-79%	269%	76%
MARGIN (%)	100.0%	100.0%	88.7%	63.0%	16.7%	82.3%	75.2%	72.4%	21.7%	41.1%	52.2%
R&D	**-1.1**	**-2.3**	**-8.0**	**-9.0**	**-30.0**	**-28.5**	**-14.5**	**-10.0**	**-2.0**	**0.0**	**0.0**
CHANGE (%)	-94%	107%	256%	13%	233%	-5%	-49%	-31%	-80%	-100%	
S,G&A	**-7.4**	**-2.5**	**-2.5**	**-2.5**	**-2.5**	**-2.5**	**-2.5**	**-2.5**	**-2.5**	**-2.5**	**-2.5**
CHANGE (%)	35%	-66%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OTHER OPERATING INCOME/(EXPENSE)	**2.8**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
CHANGE (%)											
OPERATING COSTS	**-5.7**	**-4.3**	**-10.6**	**-14.1**	**-37.6**	**-38.5**	**-27.7**	**-43.5**	**-65.9**	**-92.8**	**-104.1**
CHANGE (%)	-71%	-25%	151%	33%	166%	2%	-28%	57%	51%	41%	12%
OPERATING COSTS (PER MONTH)	0.5	0.4	0.9	1.2	3.1	3.2	2.3	3.6	5.5	7.7	8.7
EBIT	**0.7**	**-3.3**	**-4.9**	**-5.7**	**-30.9**	**6.7**	**17.6**	**70.7**	**13.2**	**61.4**	**109.6**
CHANGE (%)	-103%	-597%	52%	15%	446%	-122%	165%	302%	-81%	365%	79%
MARGIN (%)	10.3%	-325.0%	-86.2%	-66.5%	-455.7%	14.7%	38.8%	61.9%	16.7%	39.8%	51.3%
EBITDA	**0.7**	**-3.2**	**-4.9**	**-5.6**	**-30.9**	**6.7**	**17.6**	**70.7**	**13.2**	**61.4**	**109.6**
CHANGE (%)	-103%	-595%	52%	15%	447%	-122%	164%	302%	-81%	365%	79%
MARGIN (%)	10.3%	-324.0%	-86.0%	-66.4%	-455.6%	14.8%	38.9%	61.9%	16.7%	39.8%	51.3%
D&A	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
FINANCIAL INCOME	11.2	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
FINANCIAL EXPENSES	-5.7	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
NET FINANCIAL INCOME/(EXPENSES)	**5.6**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**
PROFIT BEFORE TAXES	**6.2**	**-3.4**	**-5.0**	**-5.8**	**-31.0**	**6.6**	**17.5**	**70.6**	**14.1**	**63.3**	**112.5**
CHANGE (%)	-118%	-154%	50%	14%	439%	-121%	167%	303%	-80%	349%	78%
MARGIN (%)	98.0%	-335.0%	-87.9%	-67.7%	-457.2%	14.5%	38.6%	61.8%	17.8%	41.0%	52.6%
TAXES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-5.6**
TAX RATE (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
NET PROFIT/LOSS	**6.2**	**-3.4**	**-5.0**	**-5.8**	**-31.0**	**6.6**	**17.5**	**70.6**	**14.1**	**63.3**	**106.9**
CHANGE (%)	-118%	-154%	50%	14%	439%	-121%	167%	303%	-80%	349%	69%
MARGIN (%)	98.0%	-335.0%	-87.9%	-67.7%	-457.2%	14.5%	38.6%	61.8%	17.8%	41.0%	50.0%
NET PROFIT/LOSS (WITHOUT MILESTONES)	**6.2**	**-4.4**	**-10.0**	**-10.8**	**-31.0**	**-28.4**	**-12.5**	**-4.4**	**14.1**	**43.3**	**106.9**
MARGIN (%)	98.0%	-435.0%	-175.3%	-126.5%	-457.2%	-63.0%	-27.6%	-3.8%	17.8%	28.1%	50.0%
EPS (CHF)	**0.08**	**-0.66**	**-0.99**	**-1.13**	**-6.09**	**1.29**	**3.44**	**13.89**	**2.77**	**12.44**	**21.03**
SHARES OUTSTANDING (MN)	79.7	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1

ESTIMATES AS OF 27 JUNE 2016 — SOURCE: VALUATIONLAB ESTIMATES

NOTE: In our assumptions we have conservatively assumed a CHF 25 mn financing round to develop it key orthobiologics KUR-111 and KUR-113 up to phase III development, with an 18% dilution on the amount of share outstanding in our risk-adjusted NPV calculation. Alternatively, Kuros could attract funding through non-dilutive financing such as a corporate partnership or debt financing.

At the end of FY 2015 Kuros Biosciences tax loss carried forwards amounted to an aggregate amount of CHF 137 mn that could be available to offset future taxable income. Due to the uncertainties as to whether Kuros Biosciences can use these, we have excluded them from our forecasts.

Ratios & Balance Sheet

KUROS BIOSCIENCES

SHARE PRICE (CHF) 26.90

RATIOS	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
P/E		-40.8x	-27.2x	-23.8x	-4.4x	20.9x	7.8x	1.9x	9.7x	2.2x	1.3x
P/S		136.8x	23.9x	16.1x	20.2x	3.0x	3.0x	1.2x	1.7x	0.9x	0.6x
P/NAV		3.2x	3.6x	4.3x	112.8x	17.6x	5.4x	1.4x	1.2x	0.8x	0.5x
EV/EBITDA		-36.7x	-24.2x	-21.1x	-3.8x	17.8x	6.7x	1.7x	9.0x	1.9x	1.1x

PER SHARE DATA (CHF)	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
EARNINGS	**0.08**	**-0.66**	**-0.99**	**-1.13**	**-6.09**	**1.29**	**3.44**	**13.89**	**2.77**	**12.44**	**21.03**
CHANGE (%)	-107%	-943%	50%	14%	439%	-121%	167%	303%	-80%	349%	69%
CASH	**0.03**	**8.72**	**7.74**	**6.61**	**0.52**	**1.81**	**5.25**	**19.14**	**21.92**	**34.37**	**55.40**
CHANGE (%)	-96%	33099%	-11%	-15%	-92%	249%	190%	264%	14%	57%	61%
DIVIDENDS	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
PAYOUT RATIO (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NET ASSET VALUE	**0.01**	**8.44**	**7.46**	**6.33**	**0.24**	**1.53**	**4.97**	**18.86**	**21.64**	**34.09**	**55.12**
CHANGE (%)	-101%	100430%	-12%	-15%	-96%	541%	225%	279%	15%	58%	62%

BALANCE SHEET (CHF MN)	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
NET LIQUID FUNDS	**2.1**	**44.4**	**39.3**	**33.6**	**2.6**	**9.2**	**26.7**	**97.3**	**111.4**	**174.7**	**281.7**
TOTAL ASSETS	**3.3**	**45.5**	**40.5**	**34.8**	**3.8**	**10.4**	**27.9**	**98.5**	**112.6**	**175.9**	**282.8**
TOTAL SHAREHOLDERS' EQUITY	**0.7**	**42.9**	**37.9**	**32.2**	**1.2**	**7.8**	**25.3**	**95.9**	**110.0**	**173.3**	**280.3**
CHANGE (%)											
RETURN ON EQUITY (%)	931%	-8%	-13%	-18%	-2554%	84%	69%	74%	13%	37%	38%
TOTAL EQUITY	**0.7**	**42.9**	**37.9**	**32.2**	**1.2**	**7.8**	**25.3**	**95.9**	**110.0**	**173.3**	**280.3**
FINANCIAL DEBT	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
EMPLOYEES	7	15	18	21	24	27	31	36	42	48	55
- CHANGE IN %		*114%*	*20%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*

CASH FLOW STATEMENT (CHF MN)	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
NET PROFIT/(LOSS) BEFORE TAX	6.2	-3.4	-5.0	-5.8	-31.0	6.6	17.5	70.6	14.1	63.3	106.9
+ DEPRECIATION & AMORTIZATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ OTHER NON-CASH ITEMS	-8.6										
- NET INCREASE/(DECREASE) IN WC	-0.2										
NET CASH (USED)/PROVIDED IN OPERATING ACTIVITIES	**-2.5**	**-3.3**	**-5.0**	**-5.7**	**-31.0**	**6.6**	**17.5**	**70.6**	**14.1**	**63.3**	**106.9**
NET CASH (USED)/PROVIDED BY INVESTING ACTIVITIES	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
NET CASH (USED)/PROVIDED BY FINANCING ACTIVITIES	**-12.3**	**45.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CHANGE IN LIQUID FUNDS	**-14.8**	**42.3**	**-5.0**	**-5.7**	**-31.0**	**6.6**	**17.5**	**70.6**	**14.1**	**63.3**	**106.9**

ESTIMATES AS OF 27 JUNE 2016

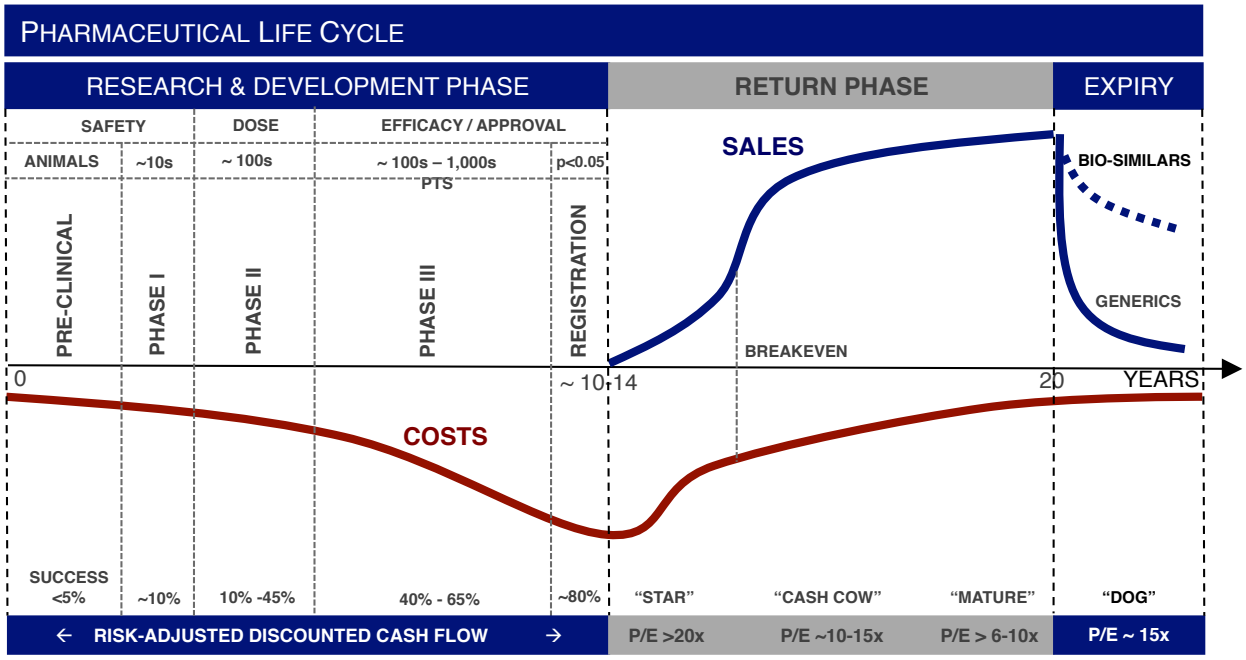
SOURCE: VALUATIONLAB ESTIMATES

NOTE: We assume a CHF 25 mn financing round boosting the net liquid funds to CHF 44 mn in our 2016 forecasts.

APPENDIX

Pharmaceutical life cycle

To determine the value of a prescription (bio)pharmaceutical compound, it is critical to understand its life cycle. Fortunately, all compounds follow the same life cycle. The clock starts ticking after the compound is patented, providing 20 years of protection from generic competition. Market exclusivities can extend this protection period. The average Research & Development Phase takes 10-14 years, leading to an effective Return Phase of 6-10 years. The Development Phase has 3 distinct Phases, focused on safety (Phase I), dose (Phase II) and efficacy/clinical benefit (Phase III). The compound is filed for registration/approval at the FDA (US) or EMA (EU). The Return Phase is characterized by a star, cash cow, and mature phase. After patent expiry (or loss of market exclusivity) generic manufacturers may copycat the branded prescription drug, at significantly lower costs, leading to a sales and earnings implosion of the branded drug.



SOURCE: VALUATIONLAB

Success probabilities & Royalties

In our risk-adjusted NPV calculations, we use standardized success probabilities based on historical clinical success rates. The success rate increases as the project progresses through development. Sales and earnings forecasts are based on the clinical and competitive profile of the compound. The more advanced the compound is, the more accurate the forecasts become as the target market can be defined. We conservatively exclude projects that lack Phase IIa proof-of-concept data in our valuations.

SUCCESS PROBABILITIES & ROYALTIES

DEVELOPMENT STAGE	AIM	WHAT / WHO	SUCCESS PROBABILITY (%)	COSTS (USD MN)	ROYALTIES (%)
PRE-CLINICAL	SAFETY & PHARMACOLOGY DATA	LAB TESTS / ANIMALS - NO HUMANS!	< 5	3	
PHASE I	SCREENING FOR SAFETY	HEALTHY VOLUNTEERS (10'S)	5-10	3	< 5
PHASE IIA	PROOF-OF-CONCEPT	PATIENTS WITH DISEASE (10'S)	10-15		
PHASE II	ESTABLISH THE TESTING PROTOCOL	PATIENTS WITH DISEASE (100'S)	10-35	5	5-15
PHASE IIB	OPTIMAL DOSAGE	PATIENTS WITH DISEASE (100'S)	20-45	5-10	
PHASE III	EVALUATE OVERALL BENEFIT/RISK	PATIENTS WITH DISEASE (1,000'S)	40-65	> 20-1,000	10-25
REGULATORY FILING	DETERMINE PHYSICIAN LABELING	CLINICAL BENEFIT ASSESSMENT	80-90		
APPROVAL	MARKETING AUTHORIZATION	PHYSICIANS FREE TO PRESCRIBE	100		15-30

SOURCE: VALUATIONLAB, TUFTS, FDA, EMA, CLINICALTRIALS.GOV

Important Research Disclosures

valuationLAB AG is an independent life science research boutique with no securities or banking services. The company does not hold any positions in the securities mentioned in this report.

Our financial analyses are based on the "Directives on the Independence of Financial Research" issued by the Swiss Bankers Association in January 2008.

Purpose of the Research

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Achievement of the (risk-adjusted) Fair Value

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