

Rapid, Reliable Pain Relief

*Rapid-acting pain medications based on the patented FFT Medical
Oral Transmucosal Film (OTF)*



KLARIA

Dr. Scott Boyer

- Trained as Toxicologist – Univ. Colorado, Boulder & Karolinska
- In the first wave of 'Young Talent' recruited to Pfizer 1993
- Moved to Astra Hässle, Mölndal 1997
- Helped design new Global Structure of AstraZeneca 1999
- Chief Scientist 2008



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ATTRITION IN DRUG DISCOVERY AND DEVELOPMENT

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¹Swedish Toxicology Sciences Research Center, Södertälje, Sweden

²AstraZeneca R&D, Mölndal, Sweden

1.1 “THE GRAPH”

If we had a confident grasp of the underlying reasons for attrition of projects and compounds in drug discovery and development, we would not need to write this book. But we are not confident, not confident in our understanding of the reasons for attrition of projects and compounds, and they share some of the blame for the attrition of projects and compounds, crippling the industry. Large-molecule drugs have

Attrition in the Pharmaceutical Industry: Reasons, Implications, and Pathways Forward,
First Edition. Edited by Alexander A. Alex, C. John Harris and Dennis A. Smith.
© 2016 John Wiley & Sons, Inc. Published 2016 by John Wiley & Sons, Inc.

Vision

Improved quality
of life for people
who experience
severe pain



KLARIA

Business Concept

Develop treatment methods with **unique properties** in the therapeutic fields of migraine and pain related to cancer



KLARIA

Klaria Pharma AB - Genesis

- Concept behind Klaria started in 2012
- Rapid-acting pain relief products designed for growing markets where current products are sub-optimal and/or expensive to manufacture
- Exclusive, worldwide, fee-free and permanent license for film technology

Transmucosal Film Technology

- Alginate polymer extracted from North Sea brown algae
- Approved for food and drug use worldwide
- Patented



FFT OTF Film Patent

P723400 Patent family

Country	Application No.	Status	Patent No.	Grant date	Patent expiry date
Australia	2006327277	Granted	2006327277	2013-03-25	2026-12-22
Brazil	PI0620403-1	Pending			
Canada	2633878	Granted	2633878	2015-02-10	2026-12-22
China	200680048866.3	Granted	ZL200680048866.3	2013-03-27	2026-12-22
EPC	06844046.0	Pending			
Hong Kong	09101443.2	Pending			
PCT	PCT/SE2006/050626	In national phase		n.a.	n.a.
India	5142/DELNP/2008	Pending			
Israel	191994	Granted	191994	2013-12-31	2026-12-22
Japan	2008-547188	Granted	5425471	2013-12-06	2026-12-22
Mexico	MX/a/2008/007839	Granted	331293	2015-07-03	2026-12-22
New Zealand	569261	Granted	569261	2012-12-11	2026-12-22
Norway	20083226	Pending			
Russia	2008130391	Granted	2445977	2012-03-27	2026-12-22
South Africa	2008/05287	Granted	2008/05287	2009-11-25	2026-12-22
South Korea	10-2008-7018096	Pending			
South Korea	10-2014-7008366	Granted	10-1484530	2015-01-14	2026-12-22
Sweden	0502900-4	Granted	0502900-4	2008-03-18	2025-12-23
USA	12/158472	Granted	8759282	2014-06-24	2029-04-17

Leadership

Board of Directors



Erik Nerpin
Chair



Scott Boyer
Member, CEO



Thomas Ohlin
Member

Operational Leadership Team



Susan Suchdev
Chief Operations Officer



Leif Ingemarsson
Chief Technical Officer



Hans Richter
Chief Financial Officer

Leadership: Scientific Advisory Board



Dr. Robert Holland: Developer of Zomig and many other megabrands



Prof. Robert Glen: Co-Inventor of Zolmitriptan

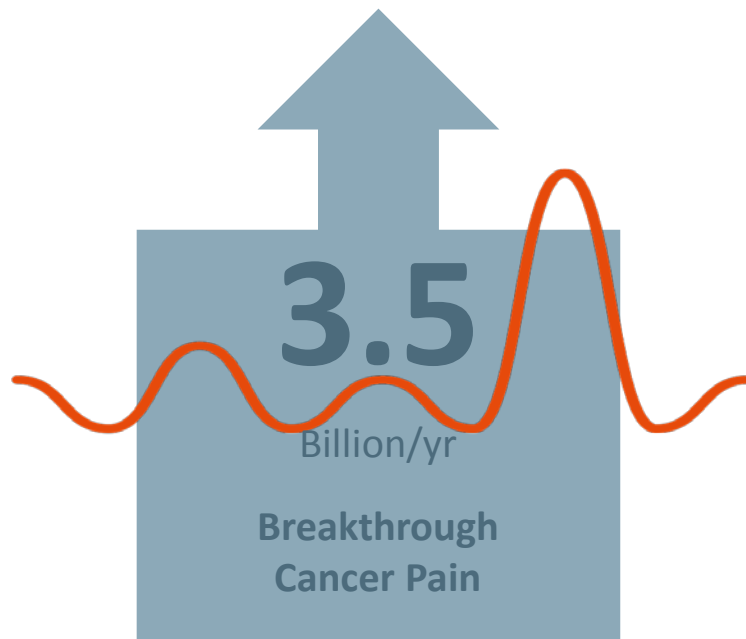
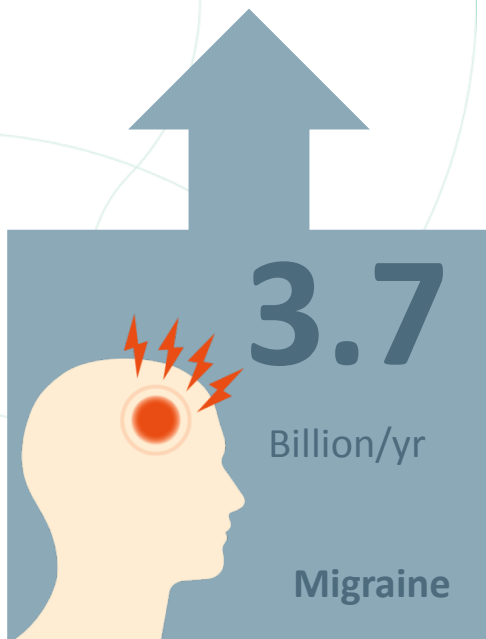


Dr. Karsten Ahlbeck: Dept. Head Pain Clinic, St. Görans, Stockholm



Focus Areas

Klaria: Focused where rapid relief counts



Migraine

- Neurological disease
- Recurrent moderate to severe headaches
- Pulsating in nature
- Lasts from 2 to 72 hours.
- Nausea, vomiting, and sensitivity to light, sound, or smell



The Impact of Migraine



people in the US
live with migraines

...impacting one in
four US households.



are unable to work
or function normally
during a migraine attack

...resulting in an ER visit
every 10 seconds for
migraine or headache...



6.2

...times greater risk
of suicide...

\$31 billion

in direct and indirect
annual economic costs



Call to Action

Migraine
Underdiagnosed

Diagnosed Patients
Require Better
Management

Headaches

Diagnosis and management of headaches in young people and adults

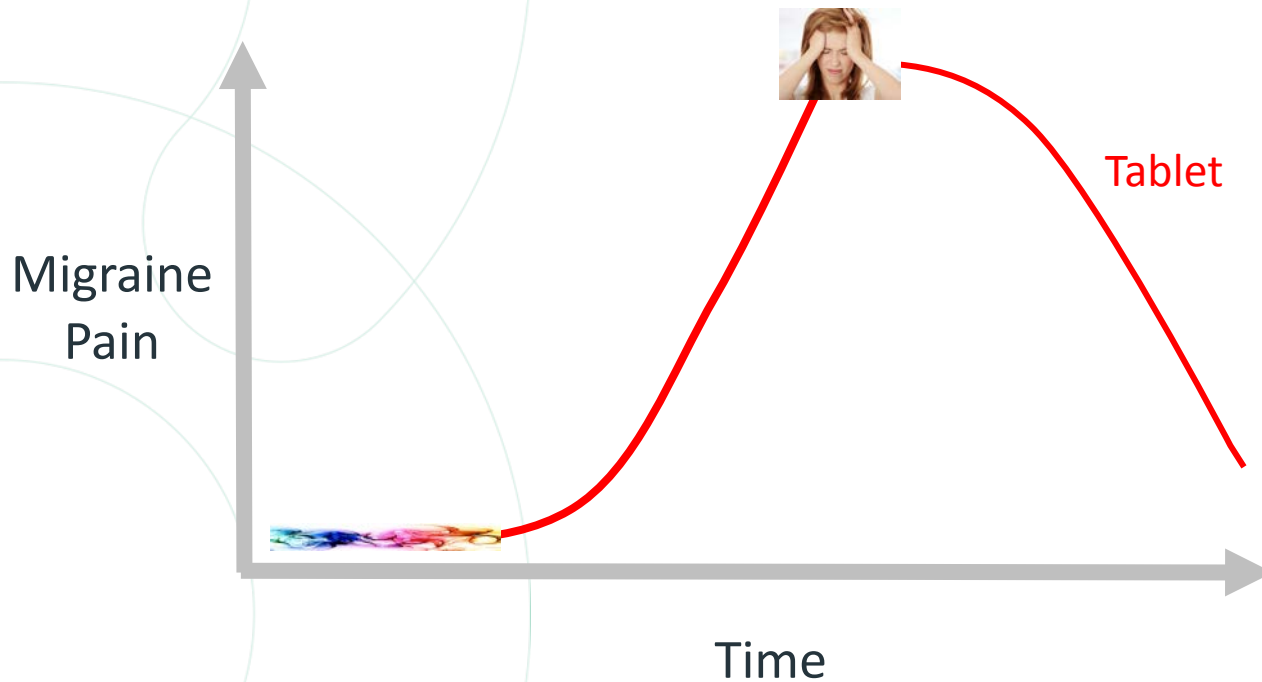
Clinical Guideline 150

Methods, evidence and recommendations

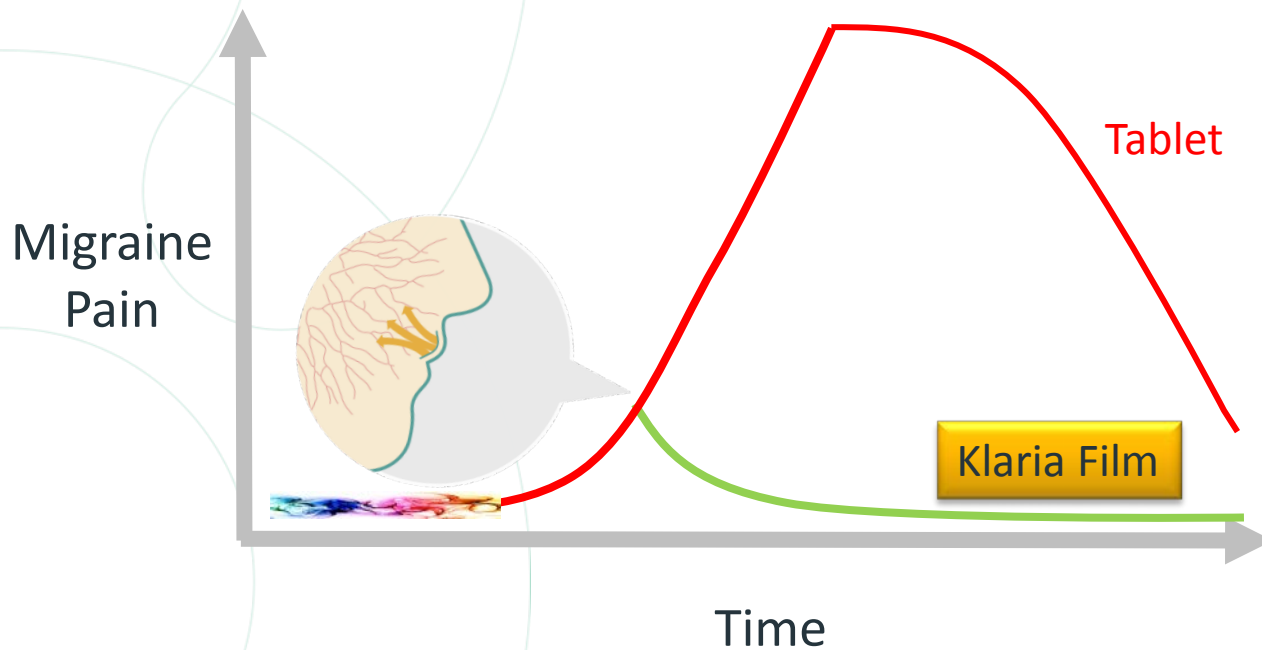
September 2012

*Commissioned by the National Institute for
Health and Clinical Excellence*

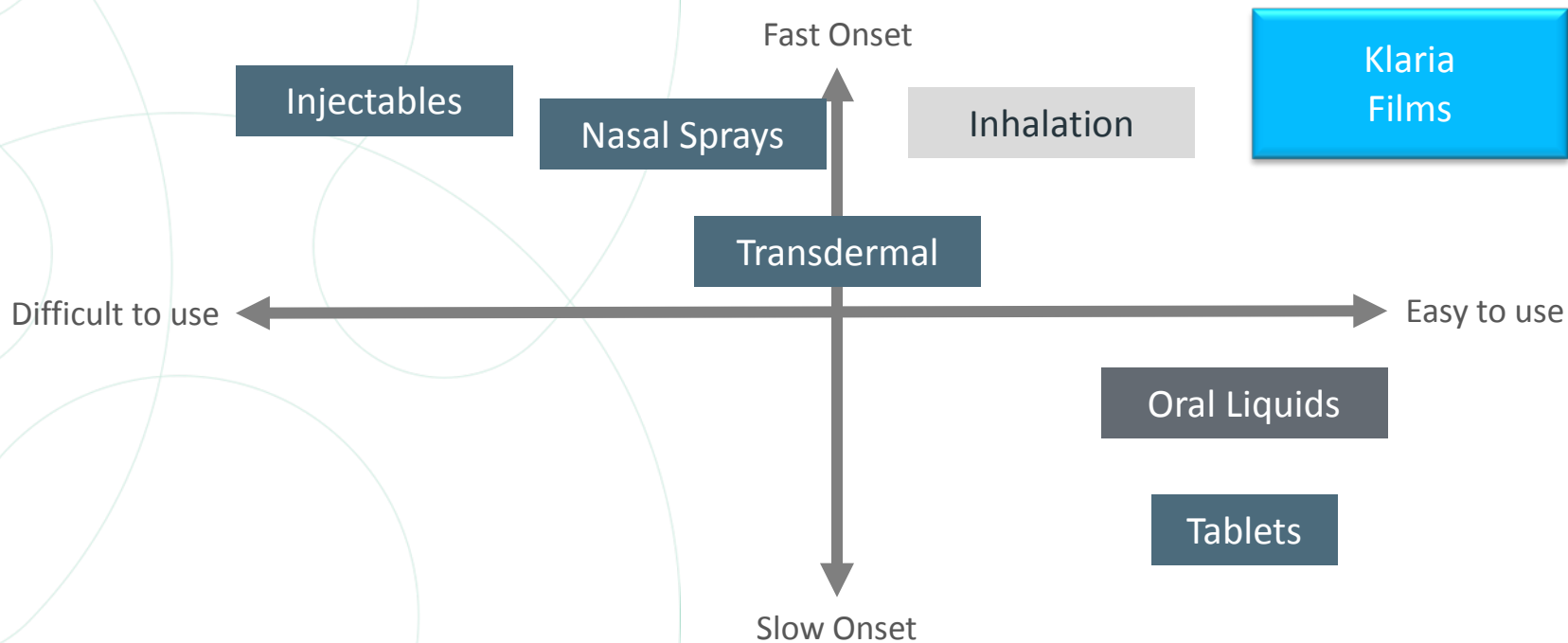
Medical Need: Rapid Onset of Action



Klaria's Products: Rapid Onset of Action



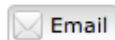
Placed Where Others Want to Be



Prescription Migraine Market

The Migraine Drug Market Will Increase from \$3.3 Billion in 2011 to \$5.8 Billion in 2021 in the United States, France, Germany, Italy, Spain, the United Kingdom and Japan

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The Migraine Drug Market Will Increase from \$3.3 Billion in 2011 to \$5.8 Billion in 2021 in the United States, France, Germany, Italy, Spain, the United Kingdom and Japan

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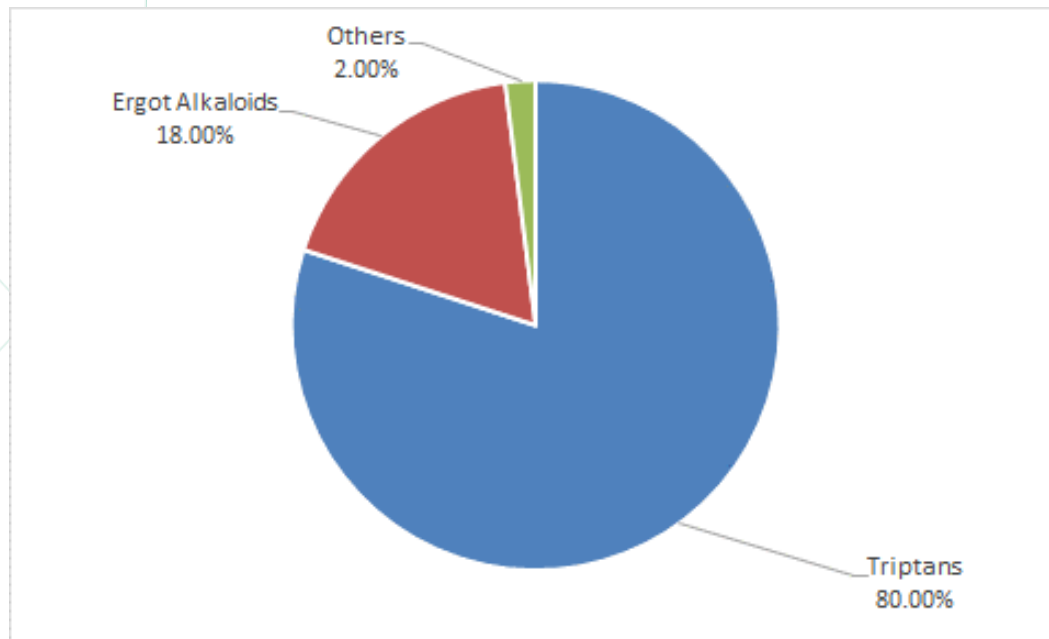
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INTRODUCING SENS

Prescription Migraine Market

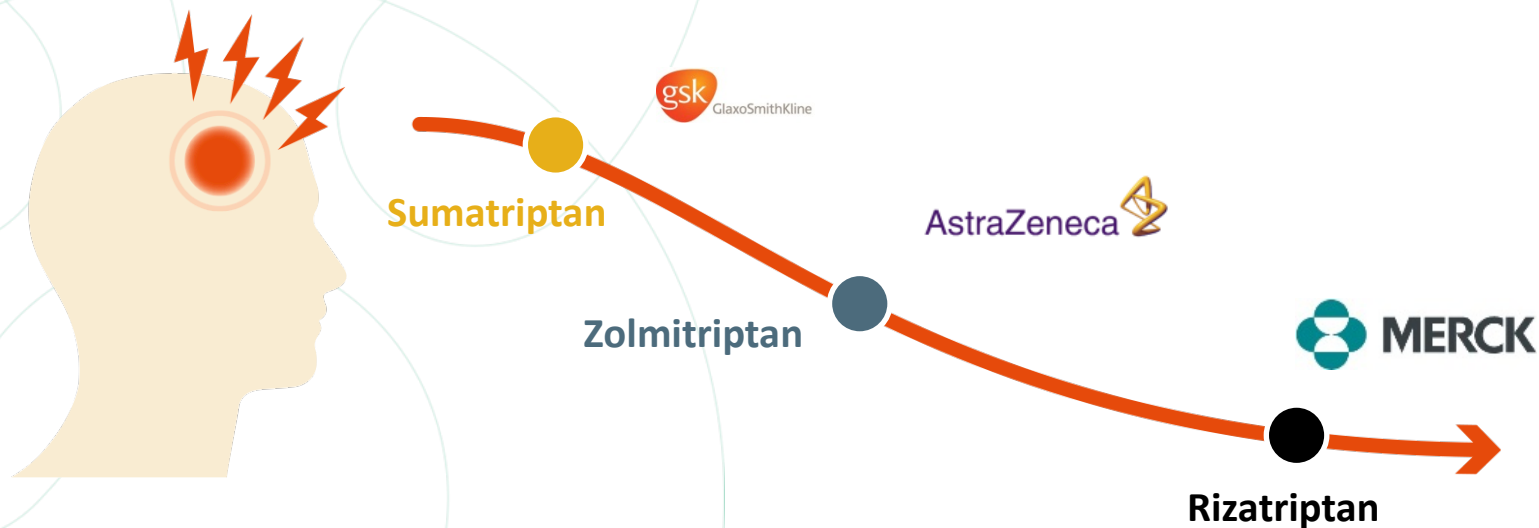
■ Treatment

- Triptans
- Ergots



The Big Three

First line Migraine therapy and >80% of triptan market – all now generic



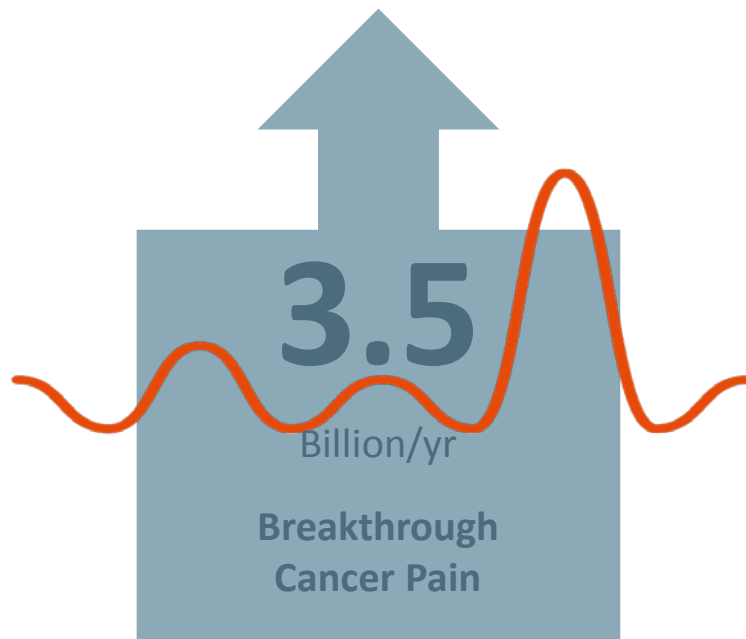
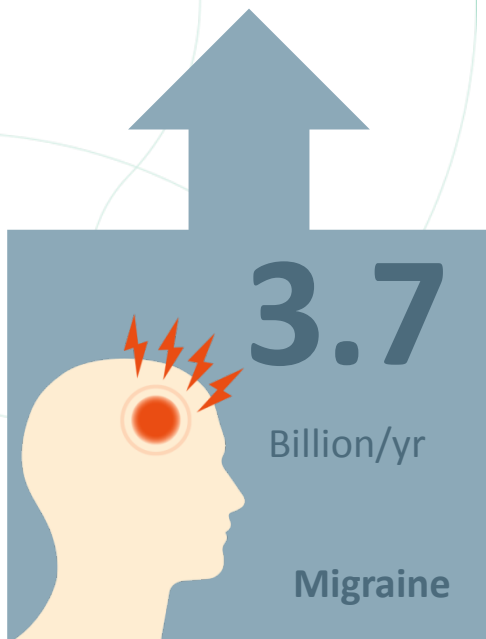
When Triptans do not work

DHE* – 2nd Line Therapy



*DHE = dihydro-ergotamine, commonly called 'ergot'

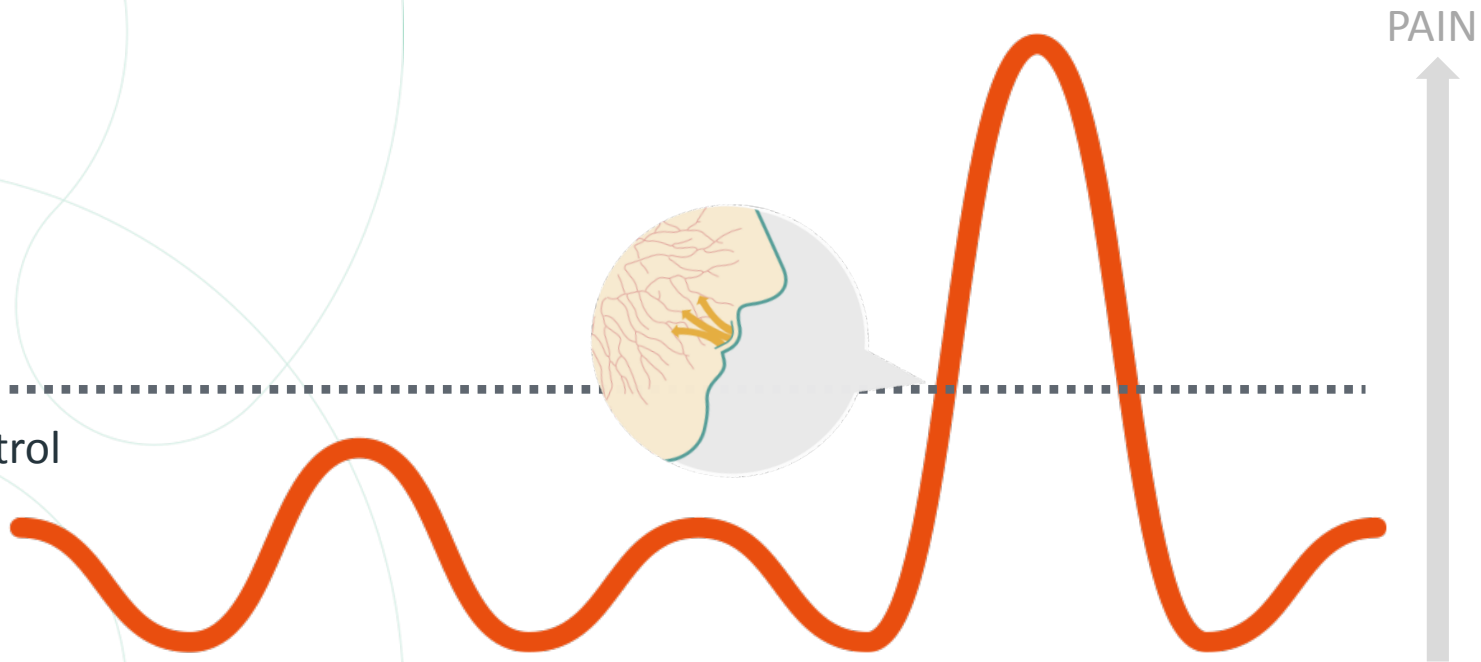
Klaria: Focused where rapid relief counts



Breakthrough Cancer Pain

BCP Control

Normal Pain Control



Breakthrough Cancer Pain

- Patients with cancer-related pain not controlled by their current therapy
- Can be already on continuous opiate analgesics
- BCP medications used to control acute bouts of pain



KLARIA

Breakthrough Cancer Pain

Market Development

- \$3.7 Billion market in 2018.
- BCP will be the fastest-growing market in pain – growing at about 15% per year.

Analgesia Products to Beat

Fentanyl

- Actiq®
- Fentora Buccal®
- Abstral®

Sublingual or Buccal

Oxycodone

- Oxynorm®

Oral Liquid

Competitor Pricing – A Weakness



www.drugs.com/price-guide/actiq



Search

All



Pill Identifier

Int

Transmucosal Lozenge

+ 200 mcg

Actiq transmucosal lozenge

from \$1,526.62

for 30 lozenge

+ 400 mcg

Actiq transmucosal lozenge

from \$1,931.44

for 30 lozenge

+ 600 mcg

Actiq transmucosal lozenge

from \$2,363.87

for 30 lozenge

+ 800 mcg

Actiq transmucosal lozenge

from \$2,797.37

for 30 lozenge

+ 1200 mcg

Actiq transmucosal lozenge

from \$3,634.63

for 30 lozenge

+ 1600 mcg

Actiq transmucosal lozenge

from \$4,481.44

for 30 lozenge

Who is the Customer?



KLARIA

Klaria's High Value Pipeline – All Generics

Area	Migraine		BCP
	Triptans (3)	DHE (1)	Analgesics (2)
Pipeline			
Comparison Value*	\$144M (2014)	\$958M (2013)	\$90M/17%Sales (2012)

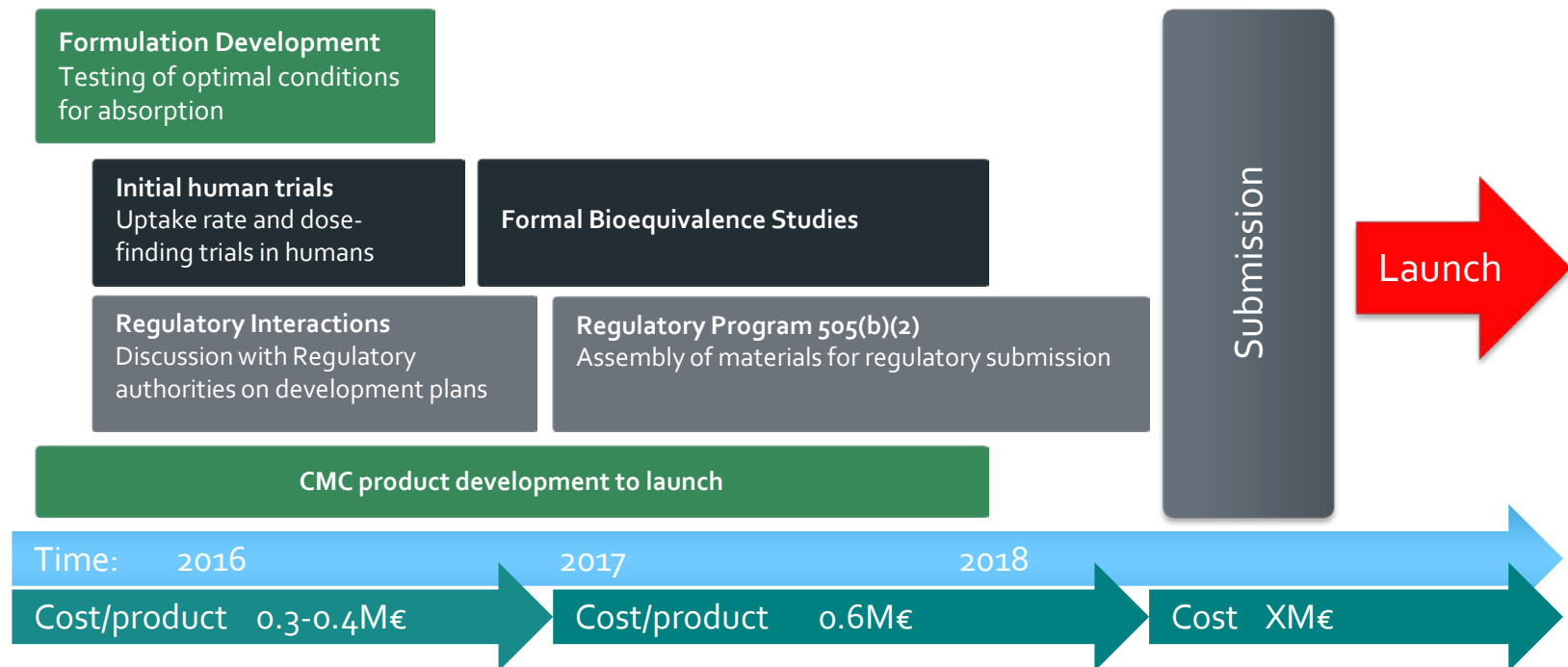
most relevant recent public **drug delivery license agreements*

Development Timelines



KLARIA

Milestones to Launch | Triptans, DHE, Analgesics



Klaria as an Investment

6 Projects

Deal Value
per project
\$50+ Million

Relatively
Low Risk

Improving Quality of Life



KLARIA