



Axitinib Implant (AR-14034) Overview

February 2021

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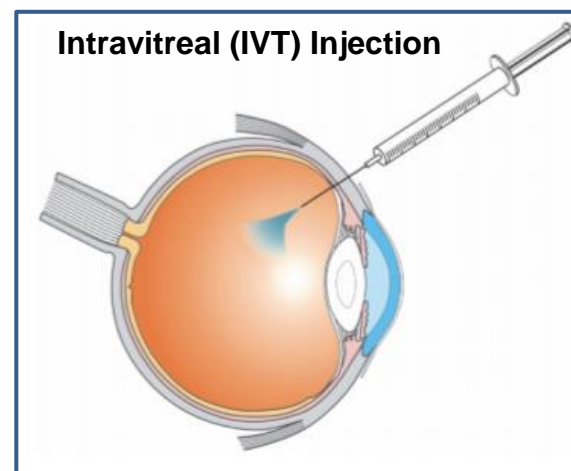
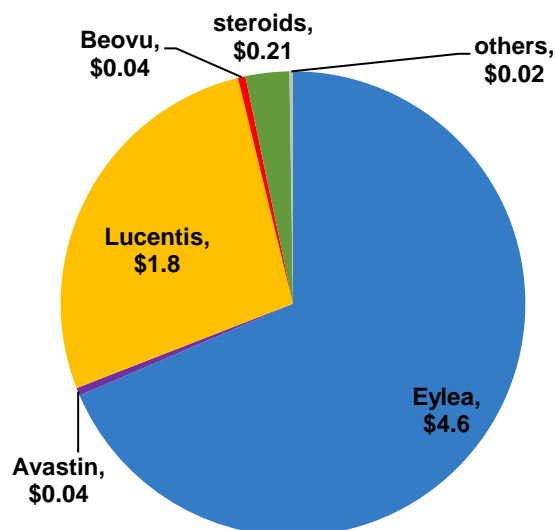
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2019 U.S. Retinal Disease Market: Need for Reduced Injection Frequency, New MOAs

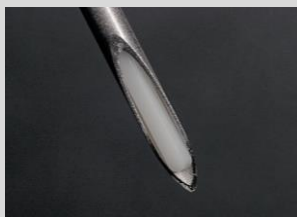
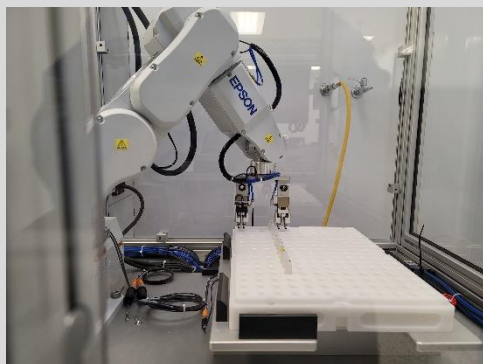
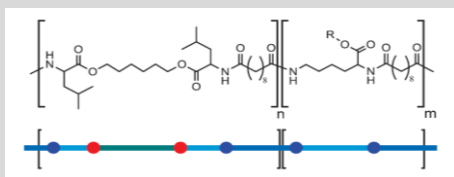
2019 U.S. Sales: \$6.8B



- Frequent intravitreal injections required to maintain vision gains
 - Represents a significant burden for patients and physicians
- Only 2 drug classes approved for treatment of wAMD, DME (anti-VEGF, steroids)
 - Not sufficient to fully address complex pathology that drives disease progression
- Opportunity for improved efficacy over current standards of care

Aerie's Proprietary Drug Delivery Platform for Retinal Disease – Predictable and Flexible

PRINT[®] Platform

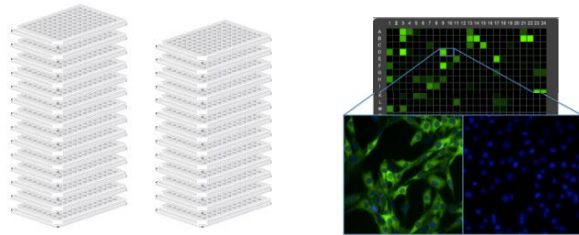


- Customizable drug elution, reproducible manufacturing
 - Proprietary bio-erodible formulations, PRINT[®] manufacturing
- Longer treatment duration, reduced injection frequency
 - Enables once or twice per year IVT injections
- Greater diversity of drug targets via small molecule drugs
 - Monoclonal antibodies limited to extracellular targets

- **Potential across a broad range of molecules and a variety of polymers (or custom polymer combinations) uniquely designed to optimize delivery of the active molecule**
- **Highly predictive when translating from preclinical models to humans**
- **Efficient low-cost tool to achieve proof of concept**

Aerie's Proprietary Drug Delivery Technology: A Platform for Future Innovation

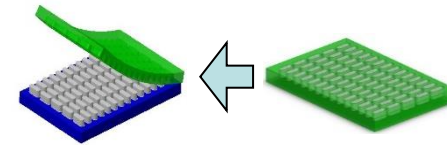
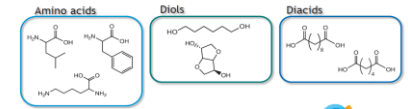
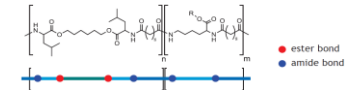
Small Molecule Drug Candidates



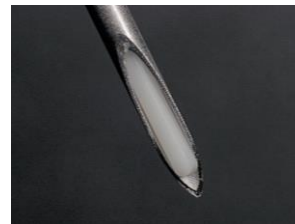
- Aerie Kinase Library
- Non-Aerie drug candidates

Proprietary Drug Delivery Technology

- DSM PEA Polymer
- PLGA



- PRINT[®] Mfg



- Bio-erodible, sustained-release implant for intravitreal injection

wAMD

DME

RVO

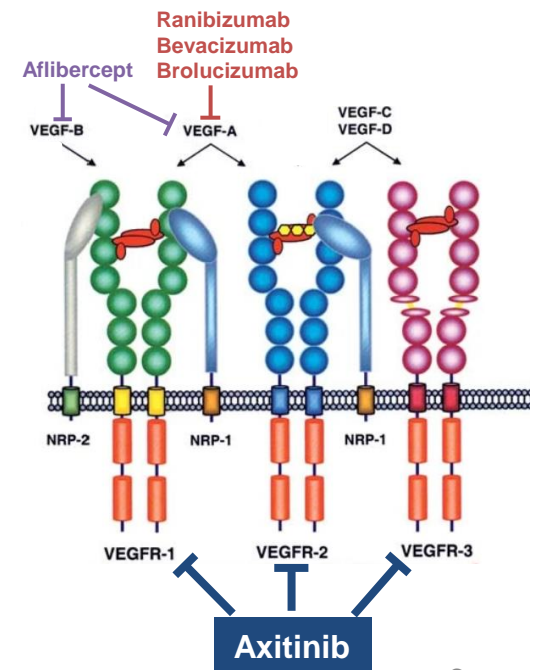
Dry AMD/GA

Glaucoma

Others

AR-14034 (Axitinib) Implant Opportunity

- 2019 IVT anti-VEGF worldwide market \$13B; est. \$22B by 2025¹
- Current anti-VEGF pipeline dominated by longer duration products targeting injection every 4 - 6 months
 - Significant value to healthcare system of longer duration therapies
- AR-14034 (axitinib) Implant offers multiple potential advantages vs. current and future products
 - Duration: targeting once-per-year injection to treat a patient for up to 12 months
 - Efficacy: potential for greater efficacy through broad inhibition of all VEGF receptor signaling (pan-VEGF inhibitor; blocks VEGF-A/B/C/D)
 - Safety: proprietary polymer blend provides controlled drug release, avoids microparticles that can migrate to front of the eye

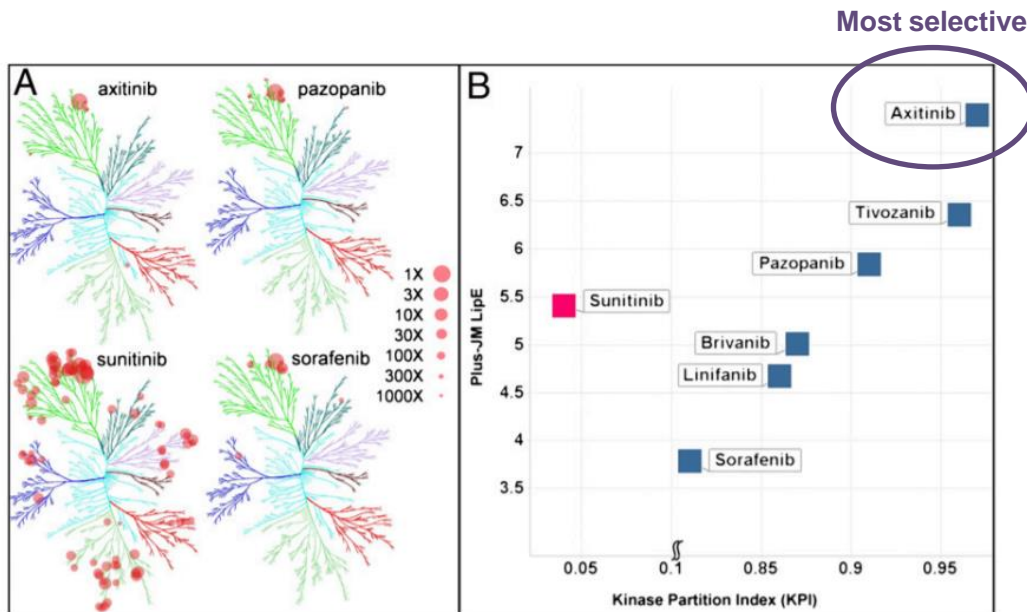


AR-14034 is a development stage product candidate and is not approved by any regulatory agency.

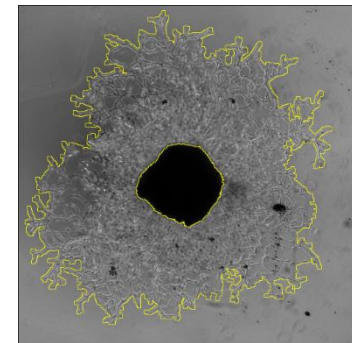
Axitinib Is Preferred Small Molecule for VEGF Inhibition

- Pan-VEGF receptor inhibitor (inhibits all isoforms of VEGF-R)
- Approved for systemic use in 2012 for the treatment of renal cell carcinoma
- Higher potency and less off-target activity than other small molecule inhibitors

Kinase Selectivity Assay



Choroid Sprouting Assay

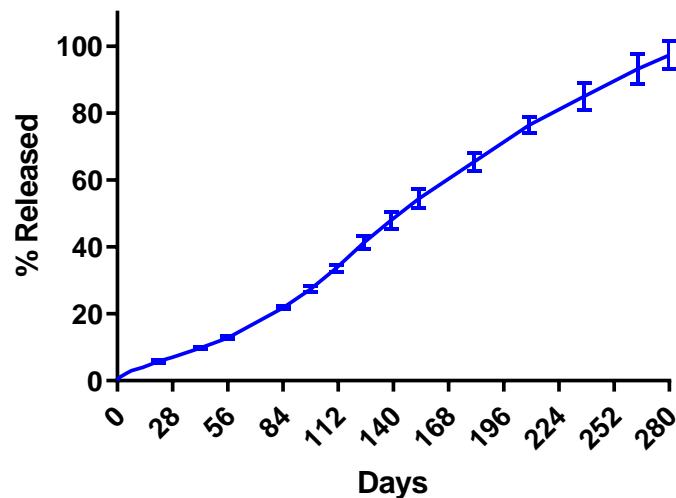


Compound	IC50 (nM)	IC90 (nM)
Axitinib	65 ±43	124 ±62
Sunitinib	676 ±500	1901 ±1103

Axitinib Implant: Results Support Up to 12 Months Duration in Clinic



Cumulative Drug Release In Vitro



In vitro: In vivo Comparison

Time	Percent drug released	
	In vitro	In rabbits
Day 14/16	10%	6-9%
Day 29/31	17%	14%
Month 5	60%	50-60%

- Proprietary polymer blend produces optimal drug elution profile
 - Maintains high elution rate over time
- Drug release rate in rabbits predicts up to 12-months duration (once a year injection) in clinic
 - Aerie rabbit data accurately predicted AR-1105 6-month duration in clinic

IND filing planned for 2H 2022