CORPORATE PRESENTATION

JUNE 26, 2018

NASDAQ: ATOS

WWW.ATOSSAGENETICS.COM

Forward-Looking Statements

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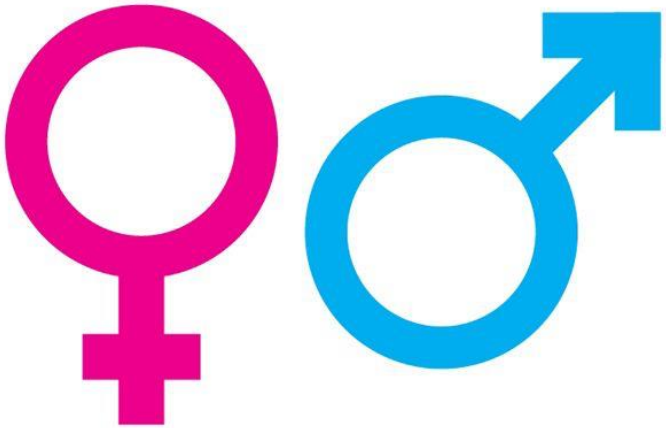
Atossa Genetics (NASDAQ: ATOS)

- Clinical-stage company
- Novel pharmaceuticals
- Novel drug delivery methods
- Breast cancer, gynecomastia & other breast conditions



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Seasoned Management

Steven Quay, MD, PhD
Chairman, CEO and President

Kyle Guse, CPA, ESQ, MBA
CFO and General Counsel

Janet R. Rea, MSPH, RAC
SVP Regulatory, Quality and Clinical Affairs

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Corporate Summary

Issuer:	Atossa Genetics Inc. (NASDAQ: ATOS)
Our Mission:	Develop novel pharmaceuticals and delivery systems to treat breast cancer and other breast conditions
Debt Mar. 31, 2018:	None
Cash Mar. 31, 2018:	$4.8 million; plus $13.6M raised in May
Capital Structure June 25, 2018:	4.4M common stock 2.1M preferred stock, as converted basis 3.9M warrants exercisable at $4.05/share 883K warrants exercisable at $3.78/share
Corporate Headquarters:	Seattle, Washington

Drug Programs

Drug Programs Using our Proprietary Endoxifen:

- **Topical Endoxifen**
  - ✧Mammographic breast density (MBD) reduction (female)
  - ✧Gynecomastia (male)

- **Oral Endoxifen** – Window of opportunity and/or adjuvant therapy in breast cancer patients (female and male)

Drug Delivery Programs

Programs Using Proprietary Microcatheter Technology:

- **Microcatheters for Transpapillary CAR-T Delivery (TRAP CAR-T)** - R&D program
- **Intraductal Microcatheters for Drug Delivery -** Phase 2 study underway

Breast Cancer Timeline

Mammographic Breast Density

Suspicious Lump

Biopsy

Diagnosis

Tamoxifen (5-10 years)

Surgery and Radiation/ Chemotherapy

Topical Endoxifen

Oral Endoxifen

Intraductal:
- **Fulvestrant**
- **TRAP CAR-T**

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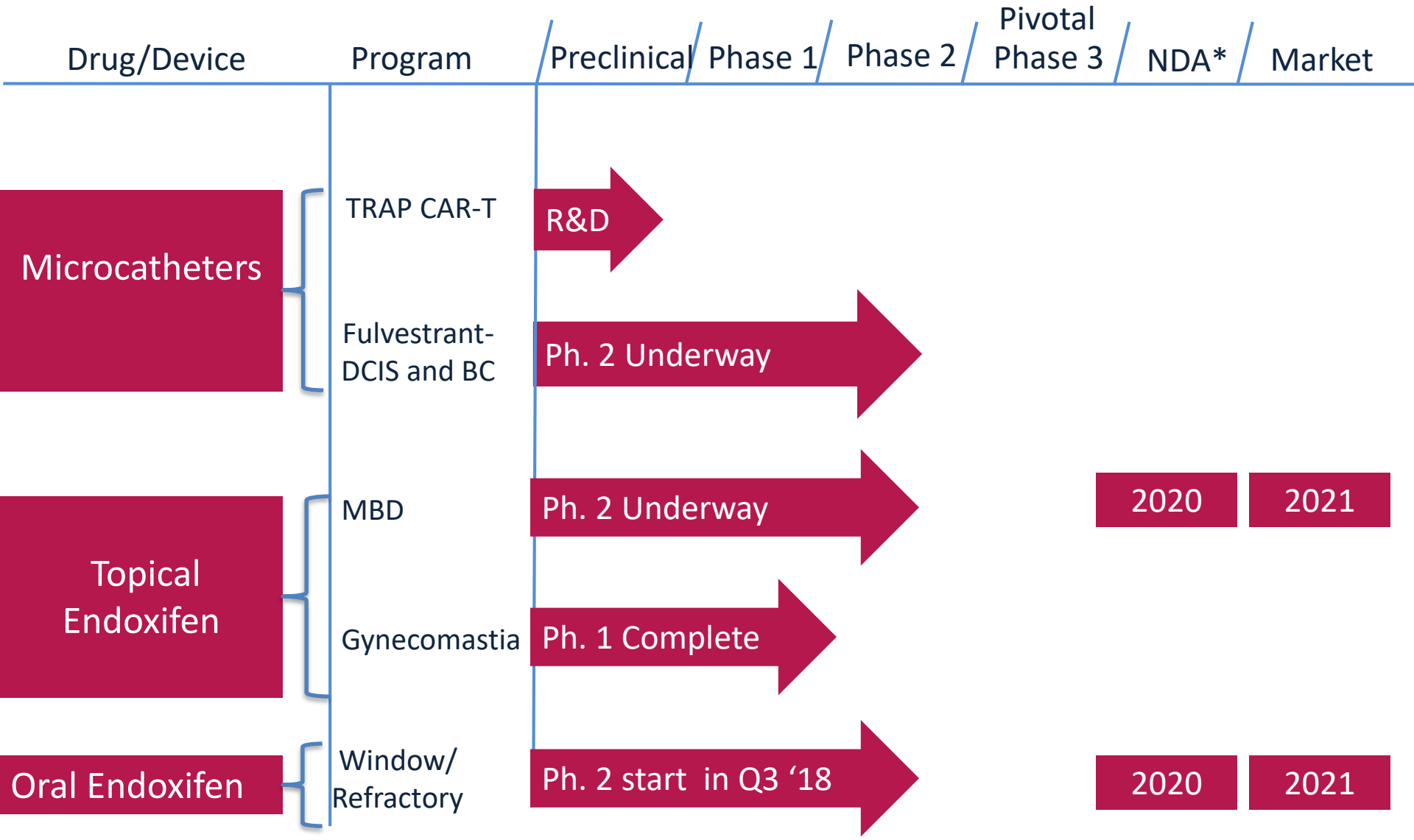
Program Pipeline



** Estimated FDA or Ex-US submission*

Large Market Opportunities

Program	Opportunity
Topical Endoxifen	10M High MBD (BI-RAD C/D)(1) 10M Gynecomastia (25% of all 50-69 yrs)(2)
Oral Endoxifen	1M ER+ Survivors/5 Yrs(3) 200k ER+ Breast Cancers/Yr. U.S.
Intraductal Fulvestrant	$800M U.S. sales for pre-surgery and surgery replacement therapy(4)
TRAP-CAR-T	35K Triple Negative Breast Cancer/Yr.(5)

(1) Nat'l Cancer Inst.: Prevalence of Mammographically Dense Breasts in the United States (Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4200066/)
(2) Mayo Clinic (retrieved from: https://www.mayoclinic.org/diseases-conditions/gynecomastia/symptoms-causes/syc-20351793)
(3) American Cancer Society, Inc: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2018/estimated-number-of-new-cancer-cases-and-deaths-by-sex-us-2018.pdf. See also Nat'l Cancer Inst.: https://www.cancer.gov/types/breast/breast-hormone-therapy-fact-sheet
(4) Data from Defined Health: SERM Report January 2017
(5) Data from Breastcancer.org (Retrieved from: http://www.breastcancer.org /diagnosis/tripneg/behavior)

The Unmet Need

Topical Endoxifen for MBD - No FDA-approved treatment

Oral Endoxifen for Refractory

- Up to 500k tamoxifen patients have low Endoxifen[1, 2]
- Tamoxifen delay (50-200 days)[3]

Oral Endoxifen for Window of Opp'y

200K ER^+ BC/yr in U.S.

Gynecomastia - No FDA-approved treatment

Intraductal Microcatheters

- Provides alternative to systemic delivery, which can have:
  - Systemic adverse effects
  - Limited tumor drug level
- ATOS microcatheter technology may:
  - Increase drug to tumor ratio
  - Improve efficacy
  - Reduce toxicity
  - CAR-T cells may follow lymphatic migration of cancer

(1) Patient reluctance toward tamoxifen for breast cancer primary prevention, Ann. Surg Oncol, 2001 Aug 8(7):580-5
(2) Breast Care (Basel): Clinical Relevance of CYP2D6 Genetics for Tamoxifen Response in Breast Cancer (Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931018/)
(3) Source: Nat'l Cancer Inst.; retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3357105/

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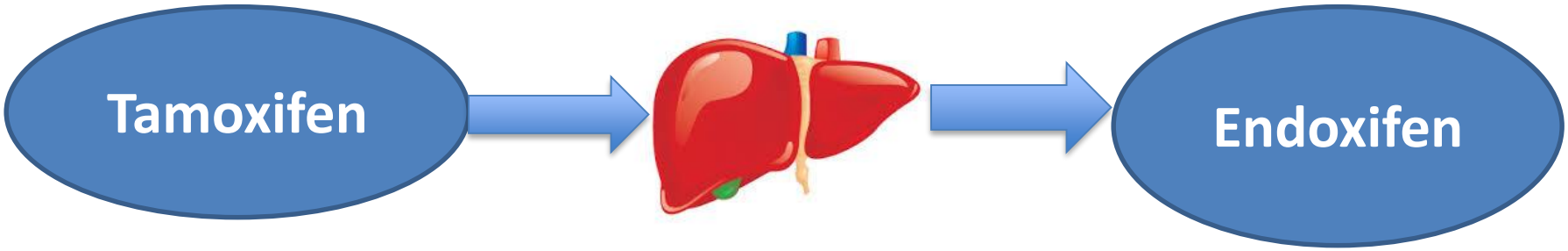
Endoxifen - Overview

- Most active metabolite of tamoxifen
- Tamoxifen has been widely studied
- Tamoxifen is a pro-drug
- Up to 50% of patients can't make enough Endoxifen(1)



(1) Breast Care (Basel): Clinical Relevance of CYP2D6 Genetics for Tamoxifen Response in Breast Cancer (Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931018/)

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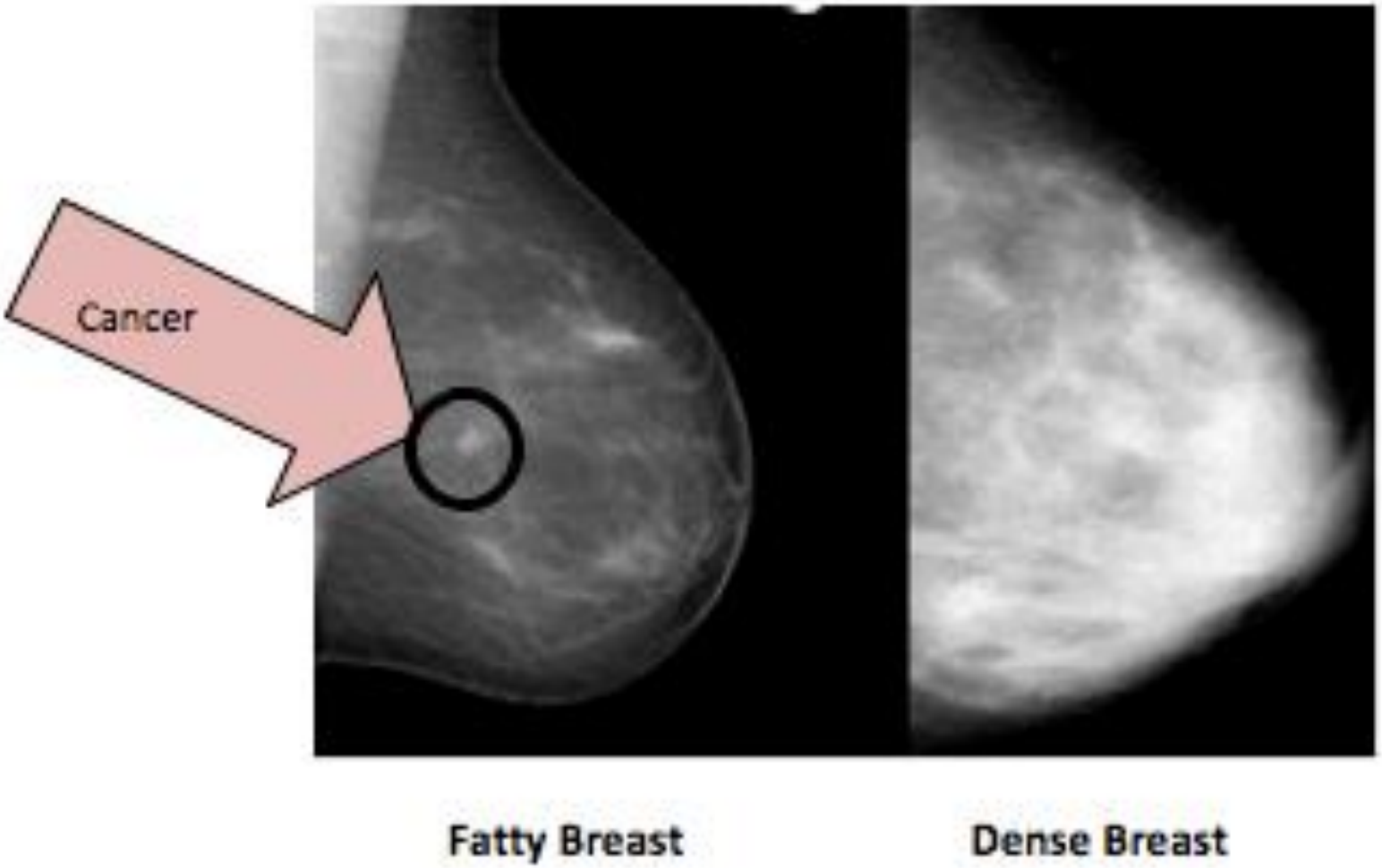
MBD - Can Mask Tumors



Source: http://woodtv.com/2015/05/11/are-you-dense-know-your-numbers/

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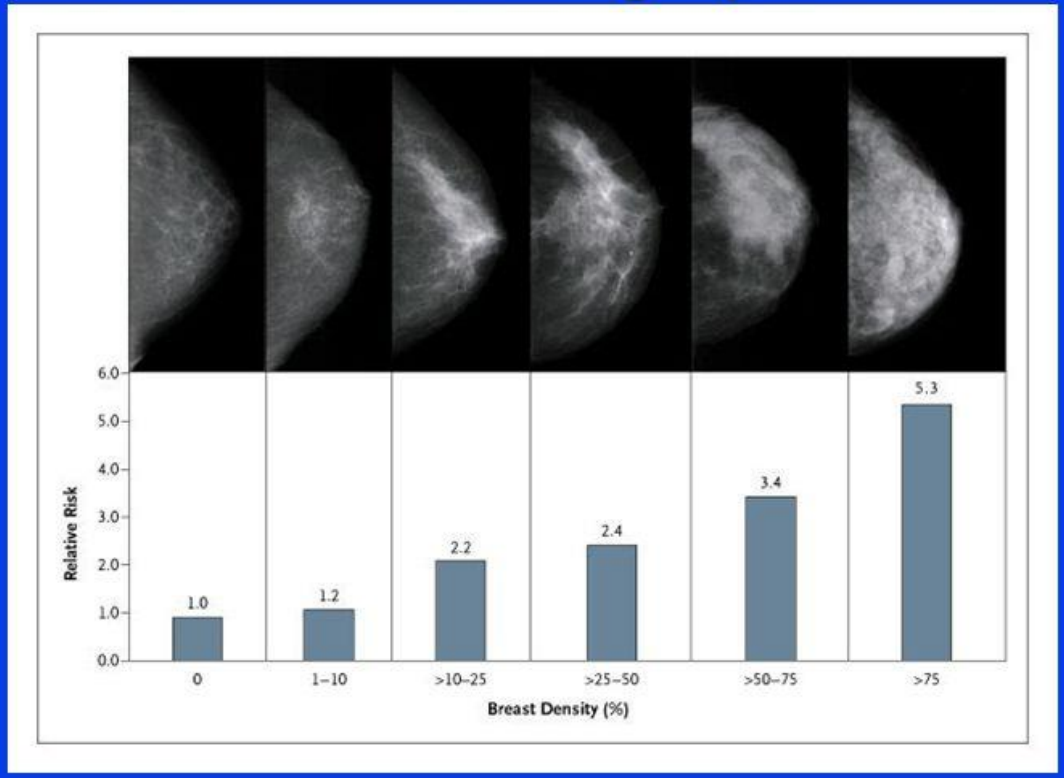
MBD - Correlates with Cancer Incidence

A Newly Recognized Breast Cancer Risk Factor: Mammographic Density



Several states have now mandated reporting of high breast density as seen on mammograms to both patient and primary care provider

Source: http://slideplayer.com/slide/1557508/

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Endoxifen – Phase 1 Clinical Trial

- Female Phase 1: Completed Q3 2017
- Pharmacokinetics; safety and tolerability
- Placebo controlled, double-blinded
- 49 female volunteers
- Oral (single and repeat dose) and topical (28-day repeat dose) arms at varying dose levels

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Endoxifen – Phase 1 Results

- **Safety:** no clinically significant safety signals and no clinically significant adverse events.
- **Tolerability:** tolerated at each dose level through out the study.
- **Pharmacokinetics:**
  - Topical - crossed the skin barrier when applied daily to the breast, as demonstrated by low but measurable Endoxifen blood levels detected in a dose-dependent fashion.
  - Oral - demonstrated blood levels that have been associated with a therapeutic effect in the adjuvant setting in women with breast cancer.

Topical Endoxifen for Men

- Underserved markets in Gynecomastia
- Gynecomastia (breast enlargement and pain):
  - Affects 25% of men ages 50-69[(1),] approx. 10m men
  - Causes: androgen deprivation therapy to treat prostate enlargement and prostate cancer; anti-anxiety medications; cancer treatments (chemotherapy), and some heart medications
  - Treatments: breast bud irradiation, compression garments and plastic surgery
  - No FDA-approved therapeutic

(1) Mayo Clinic (retrieved from: https://www.mayoclinic.org/diseases-conditions/gynecomastia/symptoms-causes/syc-20351793)

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Topical Endoxifen Phase 1 Study - Male

Cohort	Dose Level		Number of Participants	
	(mg/breast)	(Total mg)	(Z)-Endoxifen	Placebo
1	1	2	6	2
2	3	6	6	2
3	5	10	6	2

Dosing is completed. Preliminary results to be reported in Q3 2018.

Oral Endoxifen – Potentially Faster Therapy

Atossa Oral Endoxifen May Solve the "Tamoxifen Delay"

Endoxifen Source	Time to Steady State
Oral Tamoxifen (daily)	Approx. 50 to 200 days(1)
Atossa Oral Endoxifen (daily)	7 days

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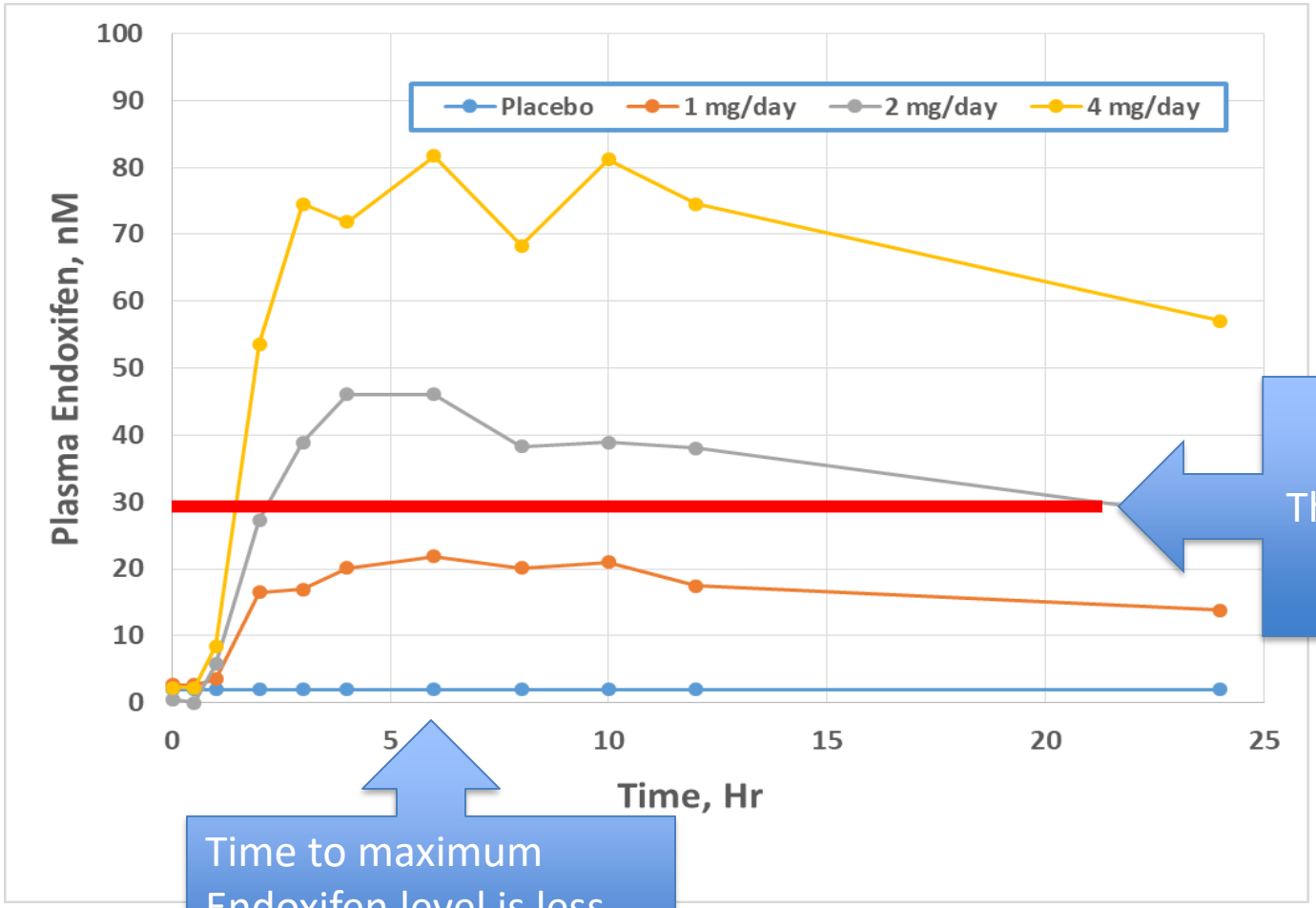
(1) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3357105/

Pharmacokinetics Summary – Oral Study

Single Dose Pharmacokinetics



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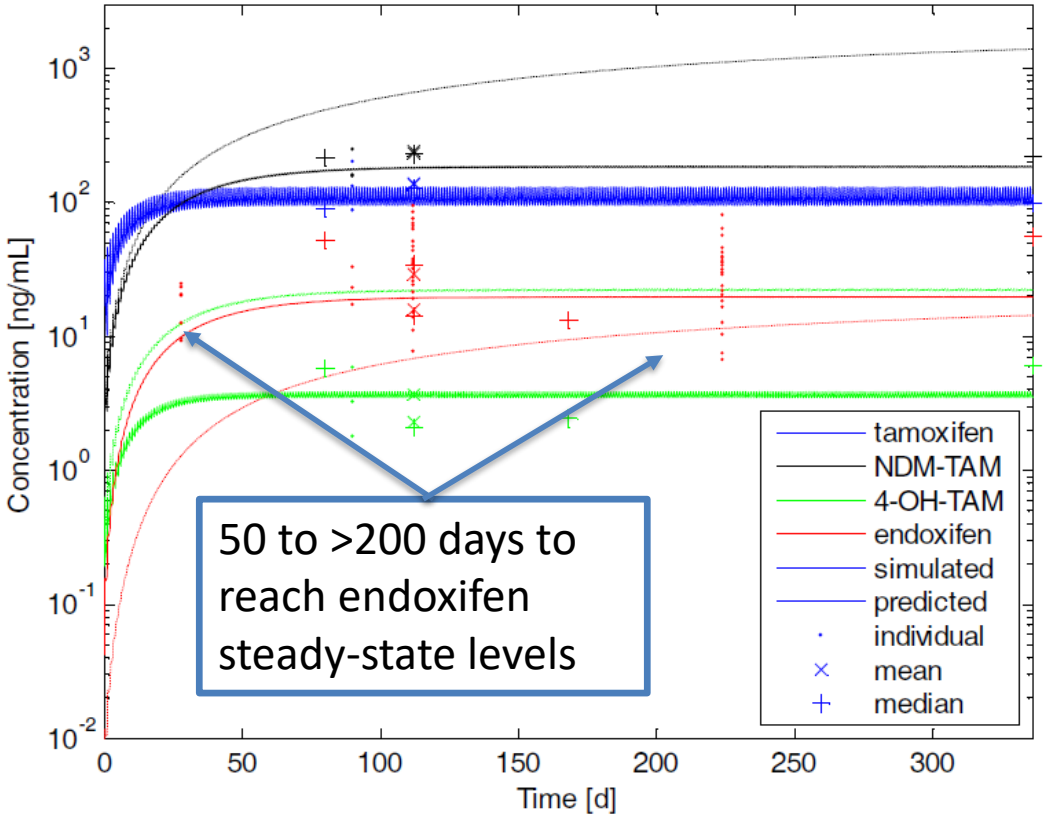
Oral Tamoxifen Pharmacokinetics

Oral Tamoxifen Yields Much Slower Blood Levels of Endoxifen



The difference is metabolizer status

Reference: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3357105/

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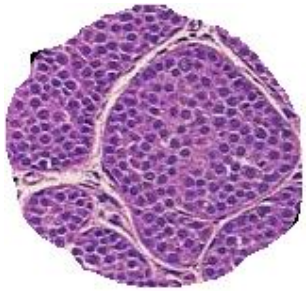
Endoxifen/Tamoxifen – Treatment Timeline

This is 25th percentile on breast cancer growth rate in women 50-59, as measured by mammography(1)

29 Days



+29 Days

Oral Endoxifen

Oral Tamoxifen

(1) https://breast-cancer-research.biomedcentral.com/articles/10.1186/bcr2092

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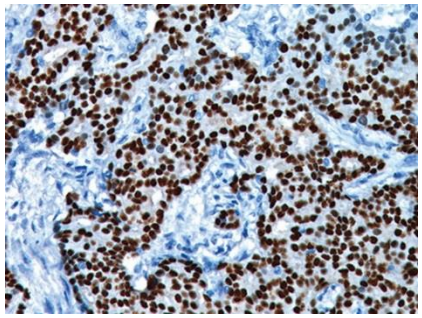
Oral Endoxifen – Refractory Clinical Trial

Entry Criteria:
ER+ breast cancer patients on tamoxifen

Measure Endoxifen Levels

>35 nM Endoxifen
Continue on tamoxifen

≤35 nM Endoxifen
Add Oral Endoxifen (4 mg/day)



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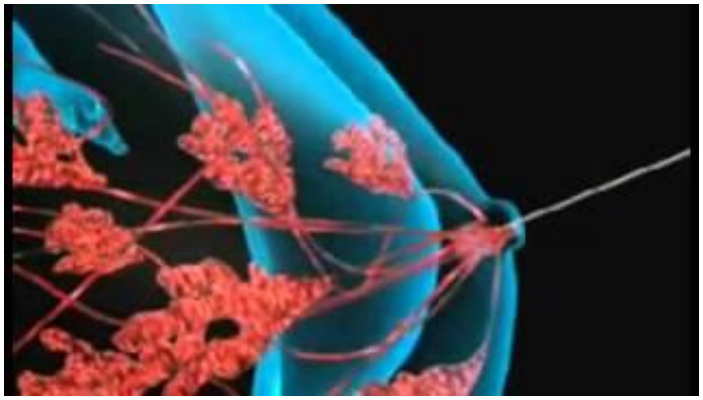
Endoxifen Regulatory Pathway

Program could qualify for designation under the 505(b)(2) status. Advantages:

- A single clinical study of safety and efficacy
- Limited additional clinical or pre-clinical studies
- Multi-year market exclusivity possible

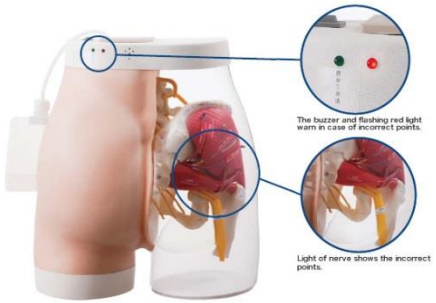
Intraductal Microcatheters



- Potential advantages - higher local drug/CAR-T exposure; lower systemic concentrations (lower toxicity) vs systemically delivered agents; potential for lymphatic migration of T-cells
- Recent Activity - Kite Pharma acquisition by Gilead; Juno acquired by Celgene; FDA approved Novartis's Kymriah™ for B-cell Acute Lymphoblastic Leukemia
- Phase 2 study - fulvestrant for DCIS or breast cancer (Montefiore)
- Fulvestrant - FDA approved (AstraZeneca); opportunities with other drugs and immunotherapies

Microcatheter Fulvestrant - Clinical Trial Study

Thirty women with ER+ DCIS or Invasive Breast Cancer



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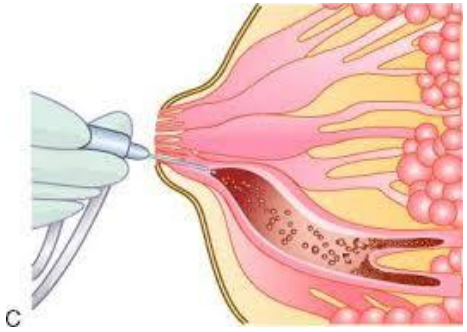

Intramuscular Administration

Drug Administered 21-45 days Before Surgery

Intraductal Administration

Assessments

Efficacy

Pathological Response: Bio-Marker Expression

Safety

FACT-ES: Side Effects

Pharmacokinetic

Tissue and Blood Levels of Fulvestrant

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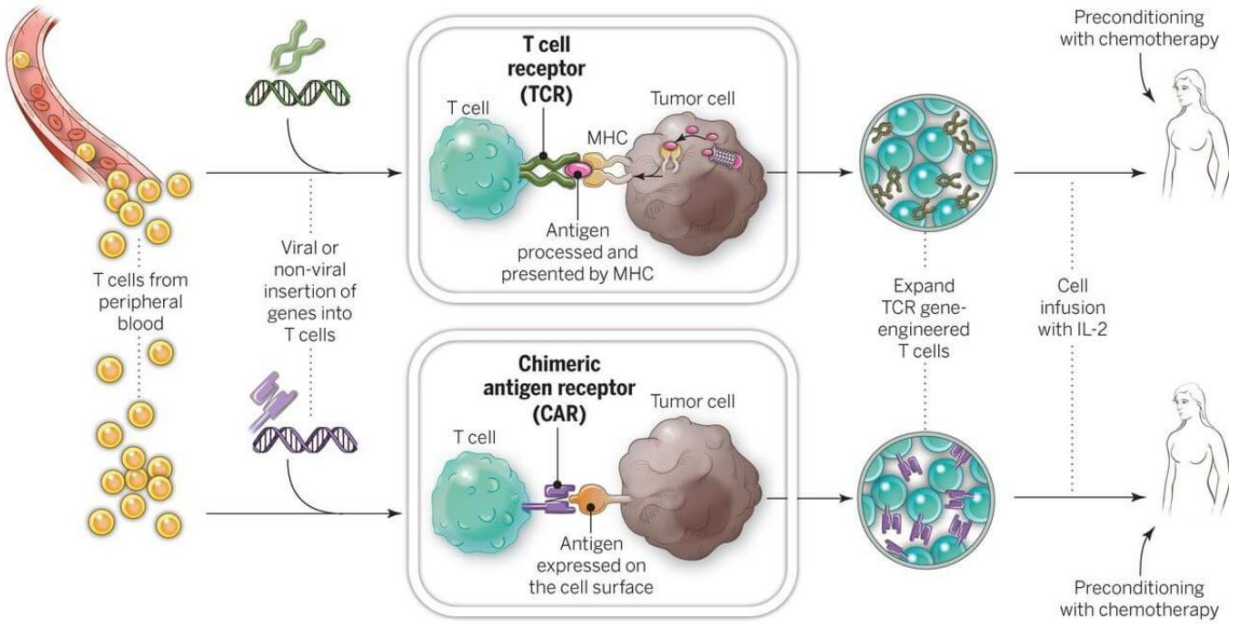
Local Delivery of CAR-T for Breast Cancer

- Safety: Reduced risk of systemic complications
- Efficacy: Delivery of CAR-T cells to the site of the cancer cells. Greater CAR-T to cancer cell ratio.
- Dose: Fewer cells would be required
    - Reduced cost
    - Increased access (due to production, cost)
- Indication: Disease localized to the breast

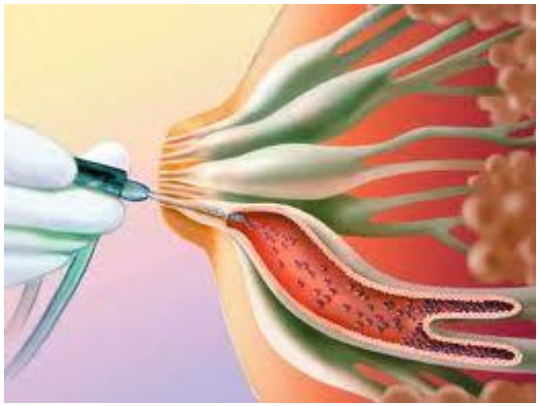
Microcatheters – TRAP CAR-T

Step 1: Remove blood and genetically modify T-cells to kill cancer



Source: NIH

Step 2: Atossa's Transpapillary (TRAP) microcatheters deliver CAR modified T-cells to breast ducts containing cancer cells



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Upcoming Milestones

<u>Oral Endoxifen</u>: 3Q 2018 – Open Phase 2 study

<u>Topical Endoxifen</u>:

(1) YE 2018 complete enrollment in Phase 2 study for MBD (Sweden)

(2) 3Q 2018 – Announce preliminary data from Phase 1 study in men

<u>TRAP CAR-T</u> - Seeking partners

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For More Information:

Kyle Guse, CFO and General Counsel

kyle.guse@atossagenetics.com

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