Atossa GENETICS

Endoxifen Clinical Update

February 1, 2018

107 Spring Street • Seattle, WA 98104 USA

Forward-looking Statements

Some of the information presented herein may contain projections or other forward-looking statements regarding future events or the future financial performance of the Company which the Company undertakes no obligation to update. These statements are based on management's current expectations and are subject to risks and uncertainties that may cause actual results to differ materially from the anticipated or estimated future results, including the risks and uncertainties associated with preliminary study results varying from final results, estimates of potential markets for drugs under development, clinical trials, actions by the FDA and other governmental agencies, regulatory clearances, responses to regulatory matters, the market demand for and acceptance of Atossa's products and services, performance of clinical research organizations and other risks detailed from time to time in Atossa's filings with the Securities and Exchange Commission, including without limitation its most recent annual report on form 10-K, subsequent quarterly reports on Forms 10-Q and Forms 8-K, each as amended and supplemented from time to time.

Additional Data Announced Today

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

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

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Discussion Topics

- Atossa Genetics Overview
- Endoxifen Clinical Update
- Upcoming Milestones

Atossa Genetics Overview

About Atossa (NASDAQ: ATOS)

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

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Corporate Update

Recent capitalization improvements:

- Cash at Sept. 30, 2017: $2.8M
- Capital raise Dec. 20, 2017: $1.4M
- Capital raise Oct. 30, 2017: $5.5M
- Warrants from Apr. 2017 financing: all exercised

Our Drug and Delivery Programs

Drug Programs Using our Proprietary Endoxifen:

- **Topical Endoxifen** - For mammographic breast density (MBD) reduction
- **Oral Endoxifen** - For “tamoxifen-refractory” patients

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Our Drug and Delivery Programs, Cont.

Two Programs Using Proprietary Microcatheter Technology:

- **Microcatheters for Transpapillary CAR-T Delivery:**
  (TRAP CAR-T) – In R&D phase with goals of reducing toxicity, improving efficacy and the potential of T-cells migrating along the lymphatic pathway

- **Intraductal Microcatheters for Drug Delivery:**
  Enrollment underway in Phase 2 study for delivery of fulvestrant for treatment of ductal carcinoma in-situ (DCIS) and breast cancer

The Unmet Need

Topical Endoxifen for MBD

- No FDA approved treatment
- 10 million women[1]

Oral Endoxifen for Refractory

- Up to 500,000 tamoxifen patients under-treated (too-little Endoxifen)[2, 3]

Intraductal Microcatheters

ATOS microcatheter technology may:

- Increase drug to tumor ratio
- Improve efficacy
- Reduce toxicity
- CAR-T cells may follow lymphatic migration of cancer

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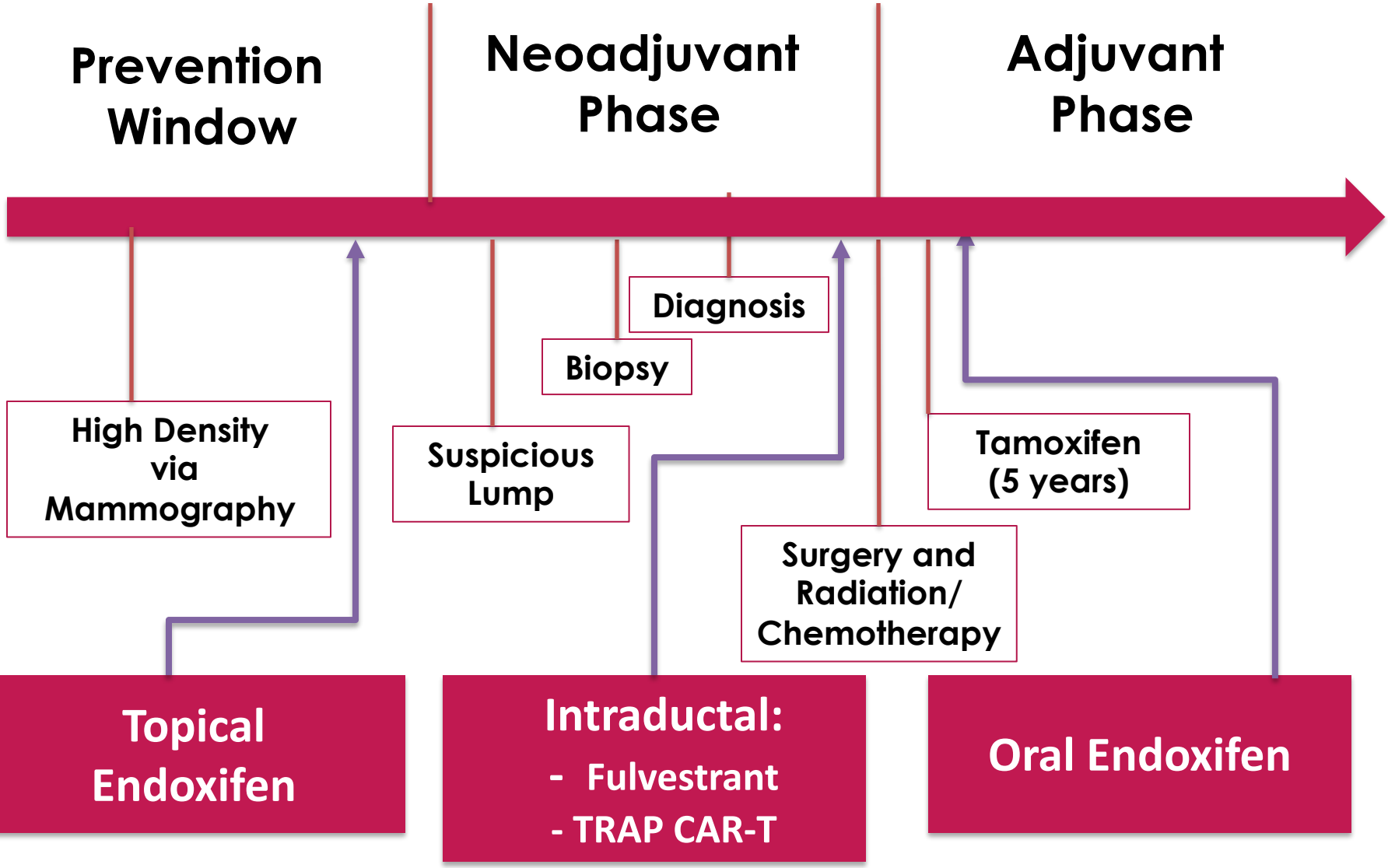
(1) National Cancer Inst.: Prevalence of Mammographically Dense Breasts in the United States (Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4200066/)
(2) Breast Care (Basel): Clinical Relevance of CYP2D6 Genetics for Tamoxifen Response in Breast Cancer (Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931018/)
(3) Cancer.net: Hormonal Therapy for Early-Stage Hormone Receptor-Positive Breast Cancer (Retrieved from: https://www.cancer.net/research-and-advocacy/asco-care-and-treatment-recommendations-patients/hormonal-therapy-early-stage-hormone-receptor-positive-breast-cancer)

Breast Cancer Timeline



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Oral Endoxifen

Tamoxifen Metabolites

Tamoxifen has many metabolites; however, only three have an estrogen-receptor inhibitory effect; a potential limitation for tamoxifen efficacy

Altered availability of active tamoxifen metabolites regulated by drug-metabolizing enzymes such as CYP2D6 can cause tamoxifen resistance

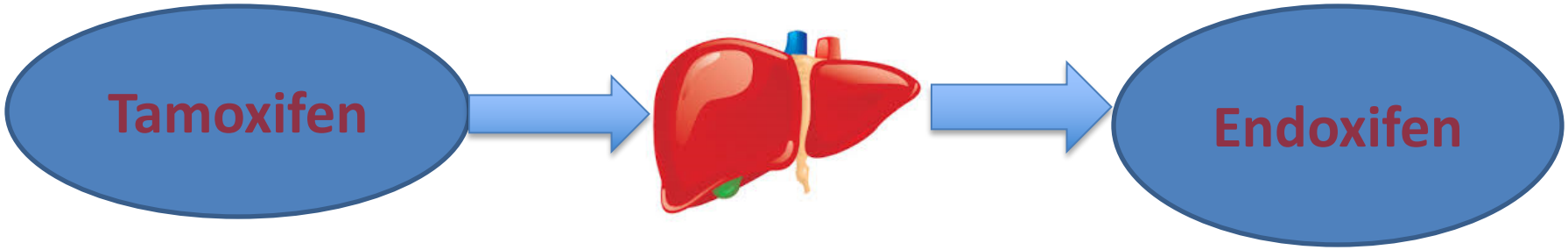
Endoxifen is the primary metabolite responsible for the overall effectiveness of tamoxifen

Compound	Plasma Level (nM)	IC_{50} Estrogen Receptor Effect (nM)	PL/IC_{50}
Endoxifen	29.1	3	9.7 (97%)
4-OH-Tamoxifen	5.8	7	0.8 (8%)
3-OH-Tamoxifen	0.7	94	<0.01 (0.1%)

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3794521/figure/F003/ 2. Murdter et al, Clin Pharmacol Therap. 2010 3. https://www.pharmgkb.org/literature/14913056

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)



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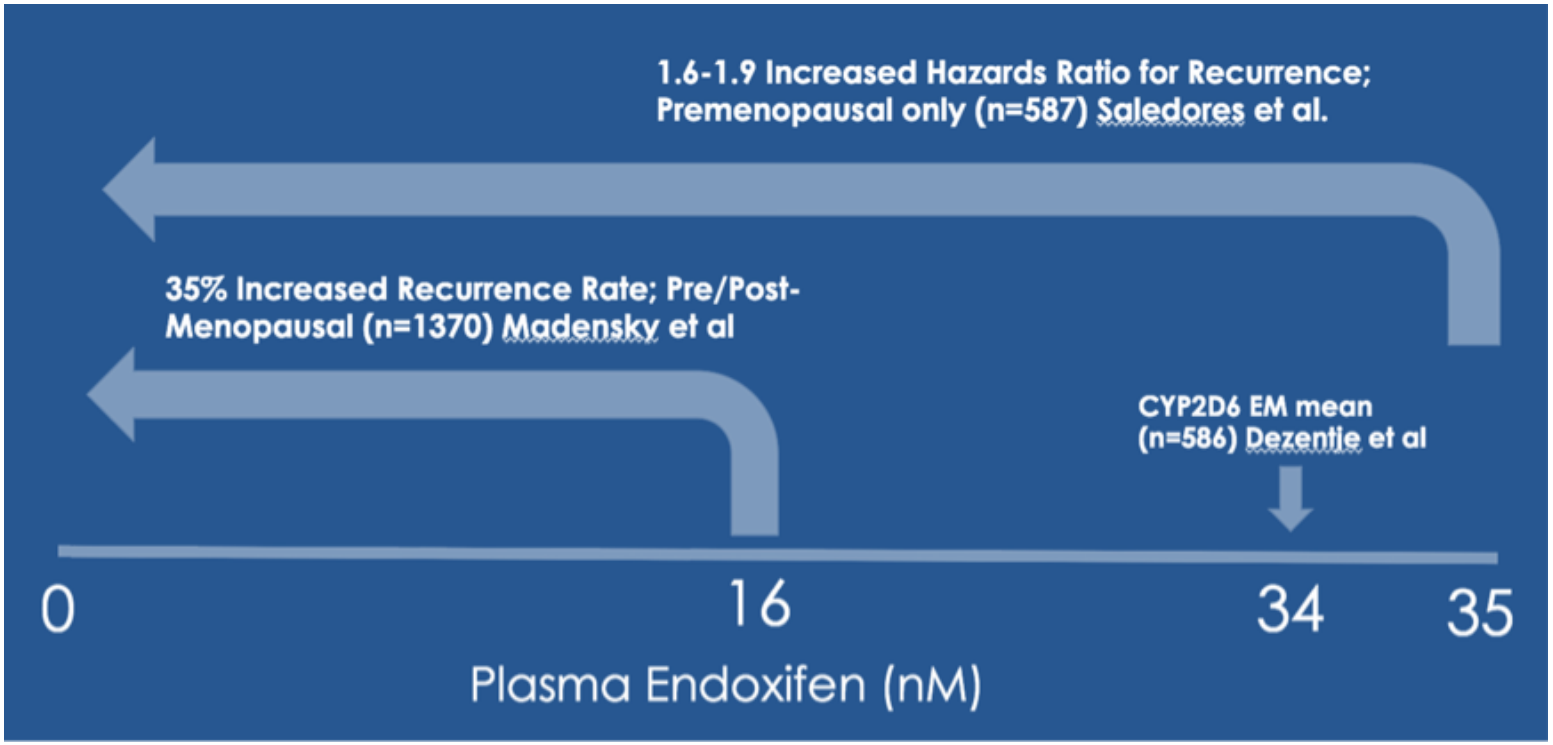
(1) Breast Care (Basel): Clinical Relevance of CYP2D6 Genetics for Tamoxifen Response in Breast Cancer (Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2931018/)

Endoxifen

Low Endoxifen correlates with increased risk of breast cancer



- 1. J Natl Cancer Inst 2011;103:744–752 2. Cuzick J, et al. J Natl Cancer Inst 2004 3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3081375/

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Why Endoxifen?

- Low levels of circulating Endoxifen during tamoxifen adjuvant therapy correlate to an increased risk of recurrent or new breast cancers
- Identified as an independent risk factor
- Known and unknown causes for low endoxifen levels during tamoxifen therapy
- Most active tamoxifen metabolite
- It may save more lives

Emerging Unmet Medical Need

- **Tamoxifen Treatment Delay**
  - 100% of patients get **no** treatment effect when just starting tamoxifen
- **Tamoxifen Refractory Patients**
  - Up to 50% of patients fail to achieve therapeutic endoxifen blood levels **ever**
    - Approximately 30 nM is therapeutic threshold
  - Only option is aromatase inhibitors
    - Significant adverse drug effects

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Large Market Opportunities

The Need: Breast Cancer Statistics

- 250,000+ cancers and 60,000 DCIS in U.S. in 2017
- 40,000+ deaths in U.S. in 2017
- 15% of BC are triple negative; 3x deadlier in 5 years

Endoxifen: $1B U.S market

For treatment and chemoprevention of breast cancer
(Defined Health 1/17)

Intraductal Fulvestrant: $800M U.S. market

in DCIS pre-surgery and replacement to surgery
(Defined Health 1/17)

TRAP CAR-T: TBD U.S. Market

Triple neg. – 37k patients/yr.; can't use hormone therapy

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Phase 1 Study

Final Study Conclusions

All study objectives successfully achieved

- **Safety:** There were no clinically significant safety signals and no clinically significant or serious adverse events in participants receiving oral Endoxifen.

- **Tolerability:** Oral Endoxifen was well tolerated at each dose level throughout the study.

- **Pharmacokinetics:** Oral Endoxifen yielded blood levels that met or exceeded the published therapeutic levels in the adjuvant setting in breast cancer patients

Final Study Conclusion (cont.)

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Pharmacokinetics Summary

Oral Endoxifen yielded blood levels that met or exceeded the published therapeutic levels in the adjuvant setting in breast cancer patients.

Both the extent and the rate of endoxifen delivery to the systemic circulation is therapeutically attractive

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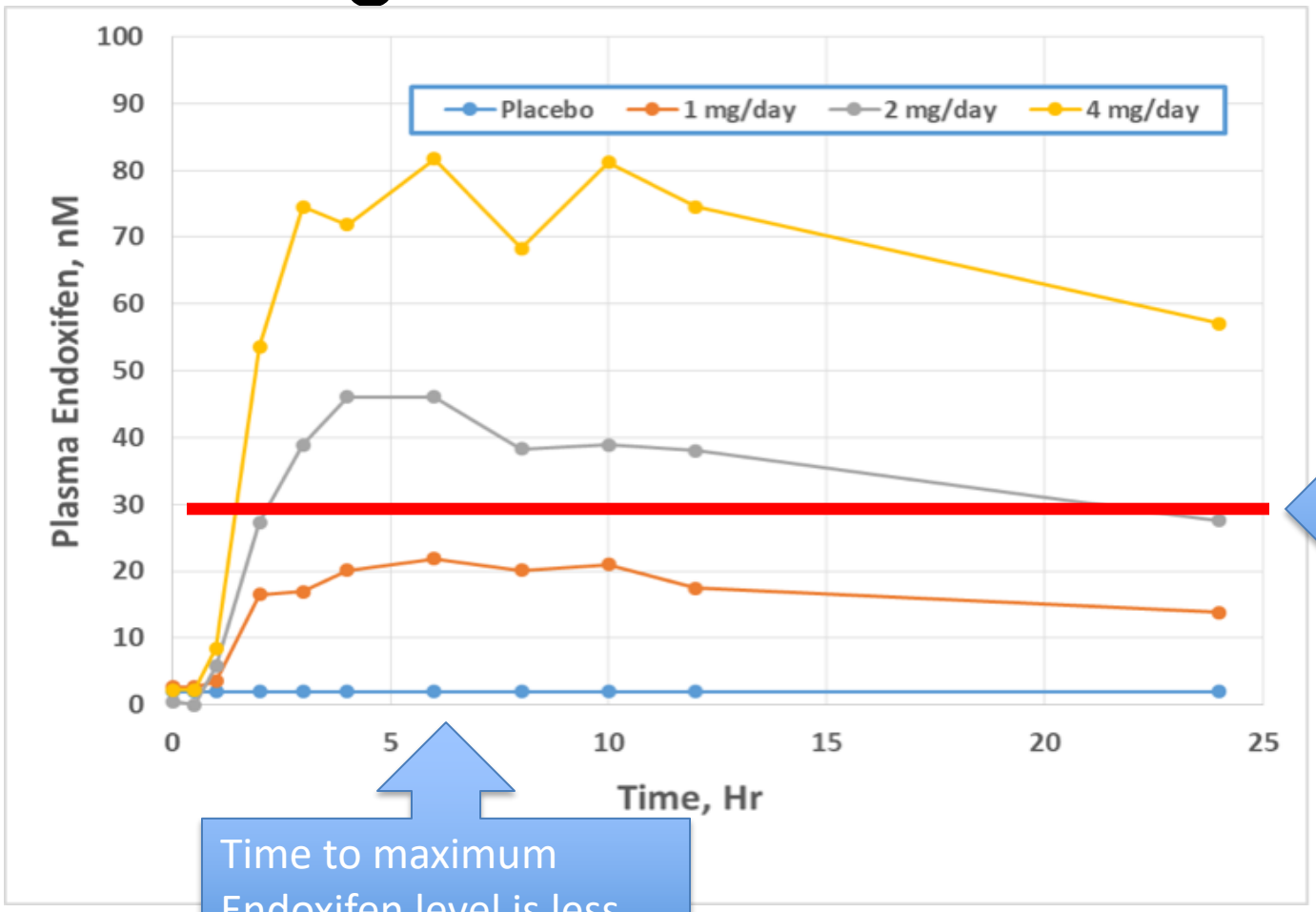
Pharmacokinetics Summary – Oral Study

Single Dose Pharmacokinetics



Potential Therapeutic Level

Time to maximum Endoxifen level is less than 8 hours

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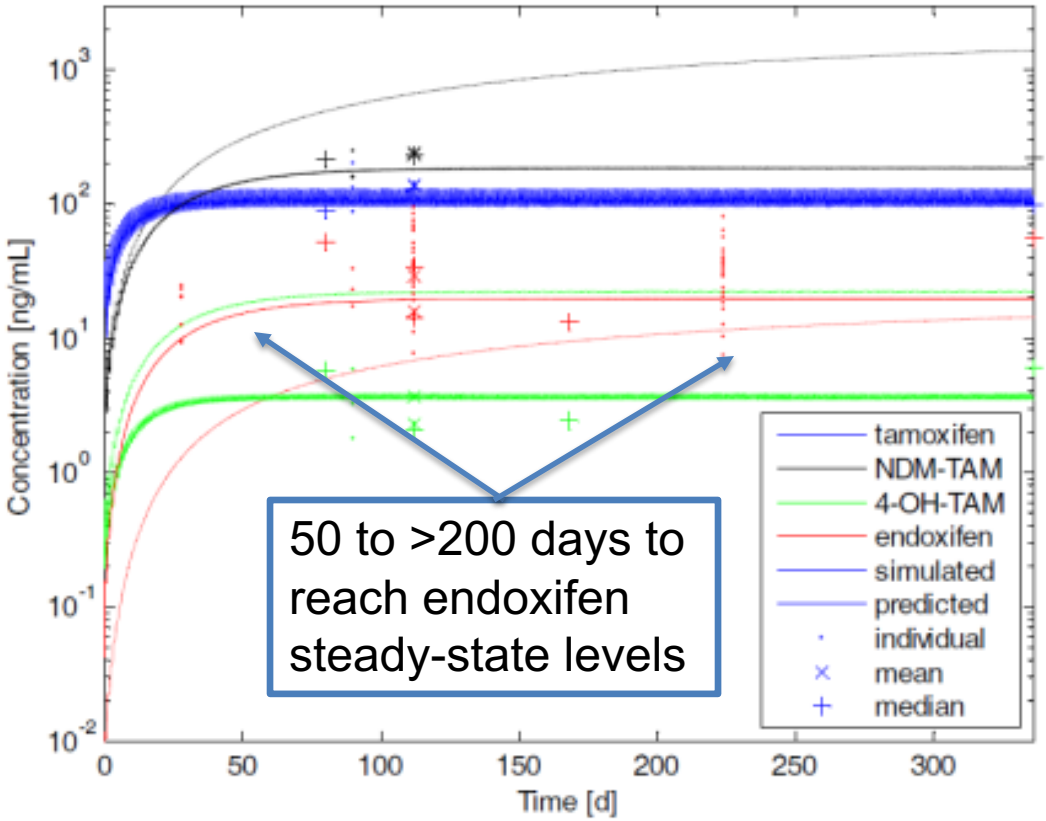
Oral Tamoxifen Yields Much Slower Blood Levels of Endoxifen



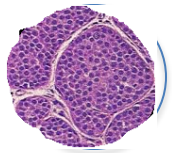
The difference is metabolizer status

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

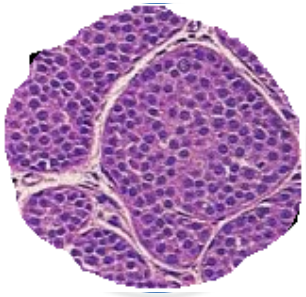
Why Are Rapid Blood Levels Important?

Endoxifen/Tamoxifen – Treatment Timeline

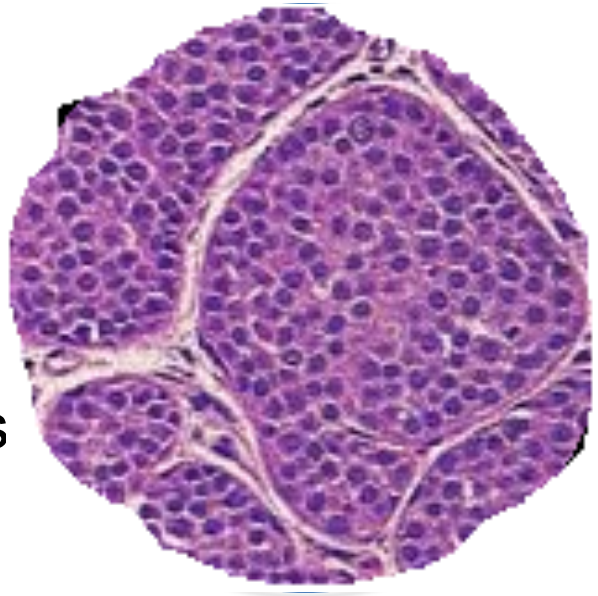
This is 25th percentile on breast cancer growth rate in women 50-59, as measured by mammography(1)



29 Days



+29 Days



Oral Endoxifen

Oral Tamoxifen

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

Upcoming Milestones

Oral Endoxifen: Phase 2 study for patients refractory to Tamoxifen is planned to open in Q1 ‘18

Topical Endoxifen: Phase 2 study of MBD to open in Q1 ‘18 with Karolinska Institute Investigator in Stockholm

TRAP CAR-T - Seeking partners

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Seasoned Management

Steven Quay,
MD, PhD
Chairman,
CEO and
President

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

Janet Rose Rea,
MSPH, RAC
Sr. VP Regulatory,
Quality and
Clinical Affairs

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NASDAQ: ATOS