

May 8th, 1:30 PM - 3:00 PM

A Case of Mistaken Identity: Biomarkers for High Risk Premalignant Breast Lesions

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University of Massachusetts - Amherst

Et al.

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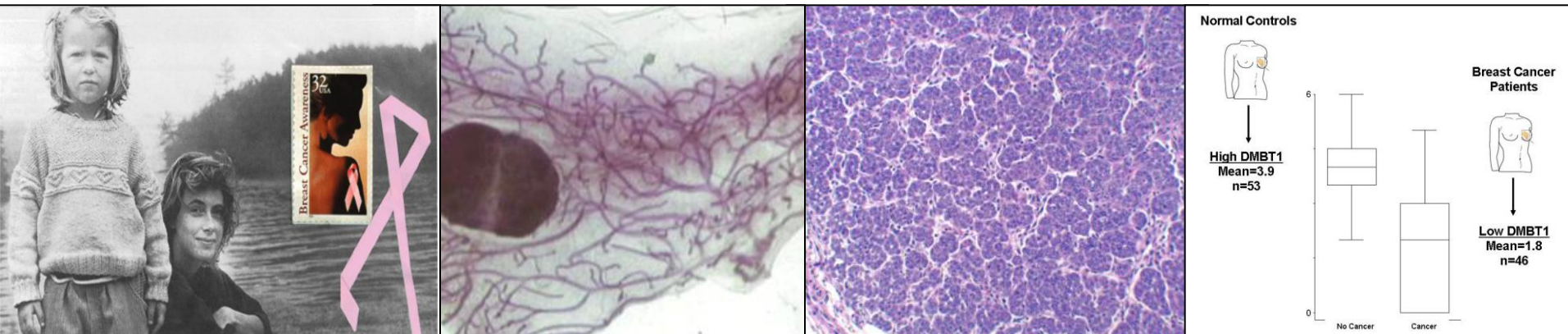
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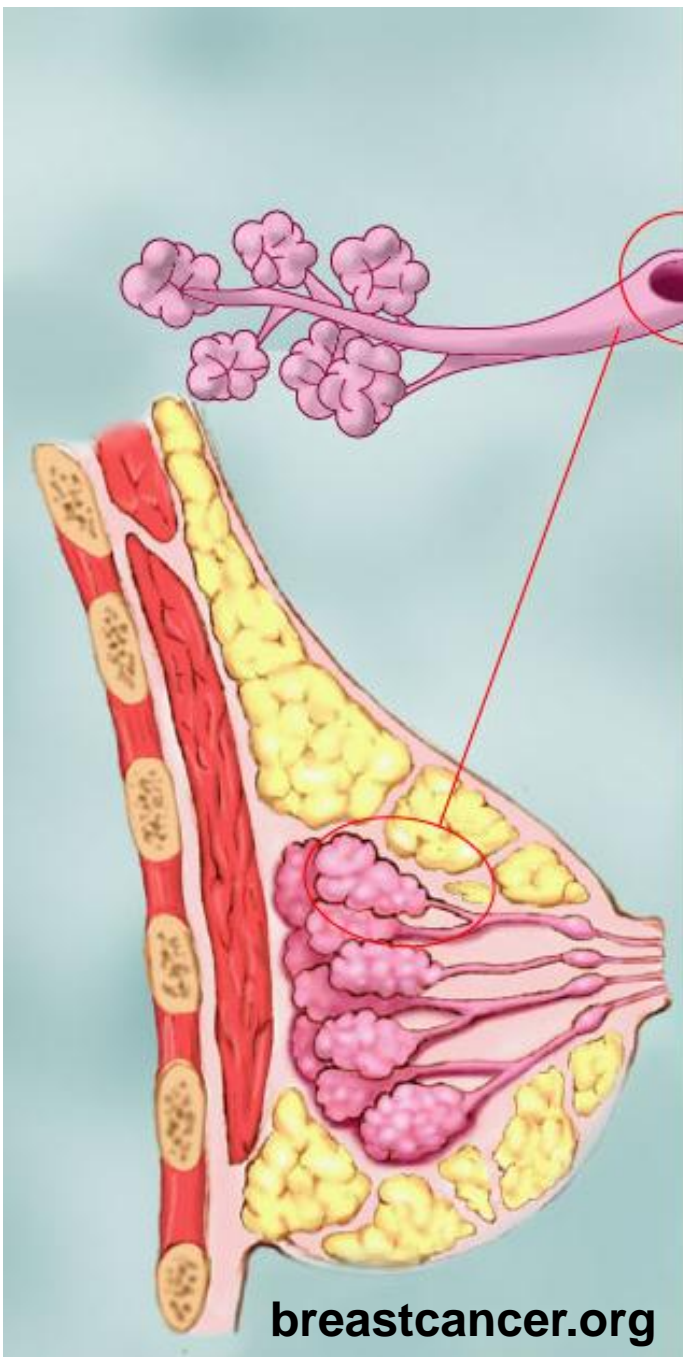
A case of mistaken identity --- Biomarkers for high risk premalignant breast lesions

D. Joseph Jerry, UMass Amherst and PVLSI

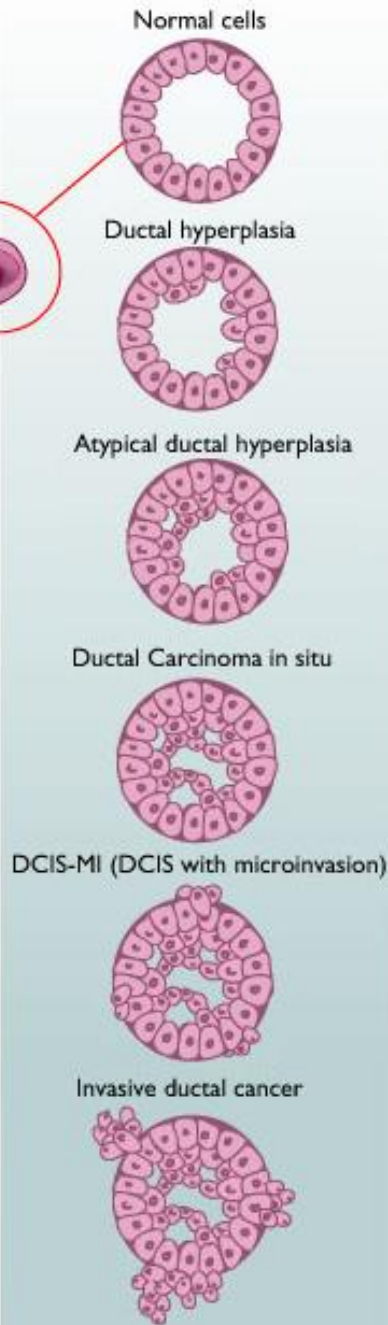
Karl Simin, UMass Medical

May 8th, 2013



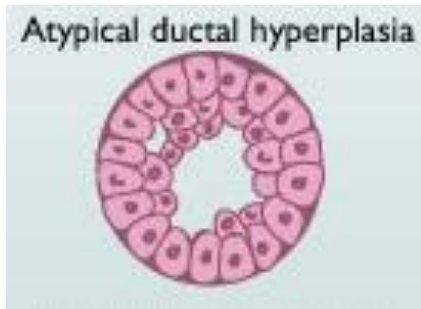


breastcancer.org

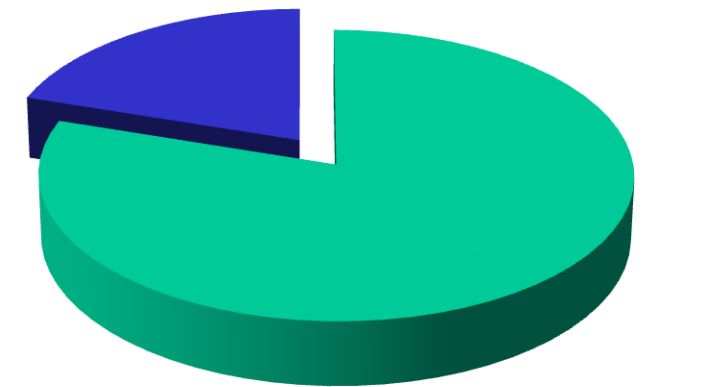


Estimated costs: \$20,000 to \$100,000/patient.

Campbell JD, Ramsey SD.
Pharmacoeconomics. 2009;27(3):199-209.
PMID: 19354340



50,000 new cases annually

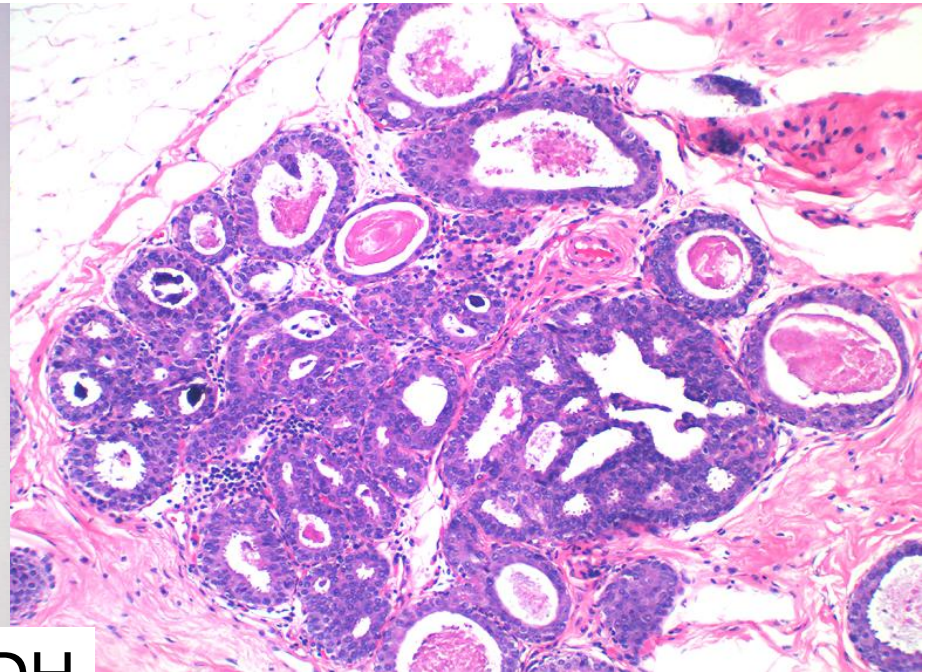
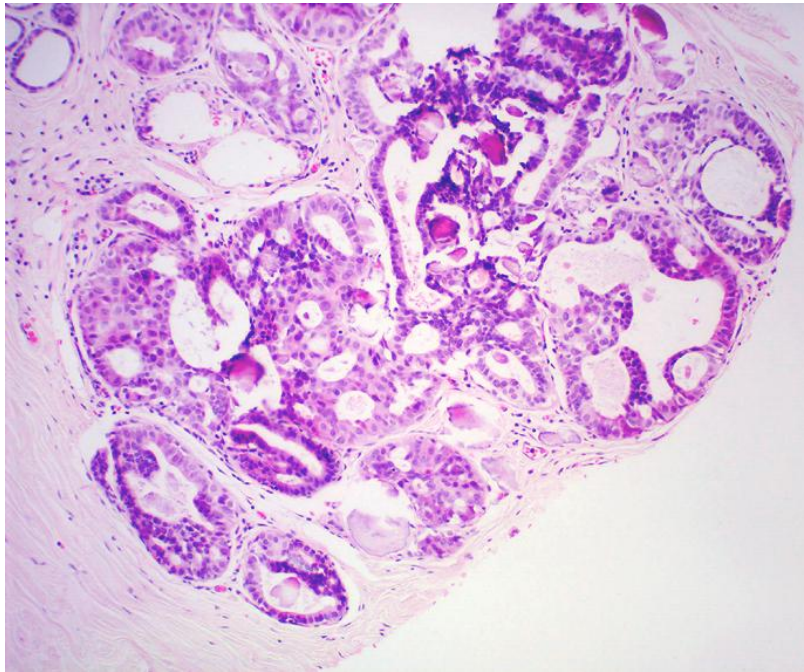


- Atypical hyperplasias
- Progression to invasive cancer

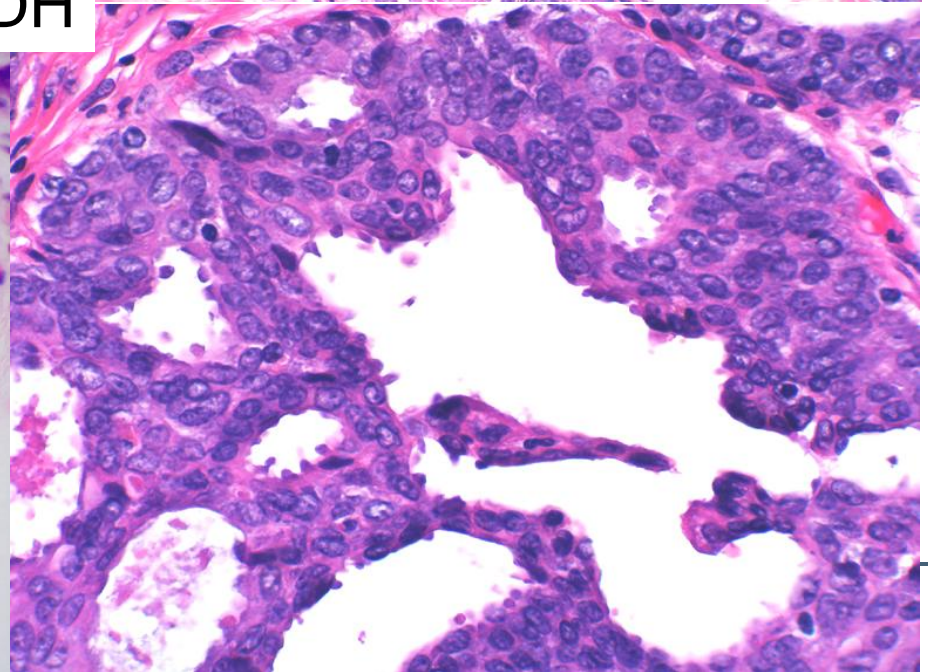
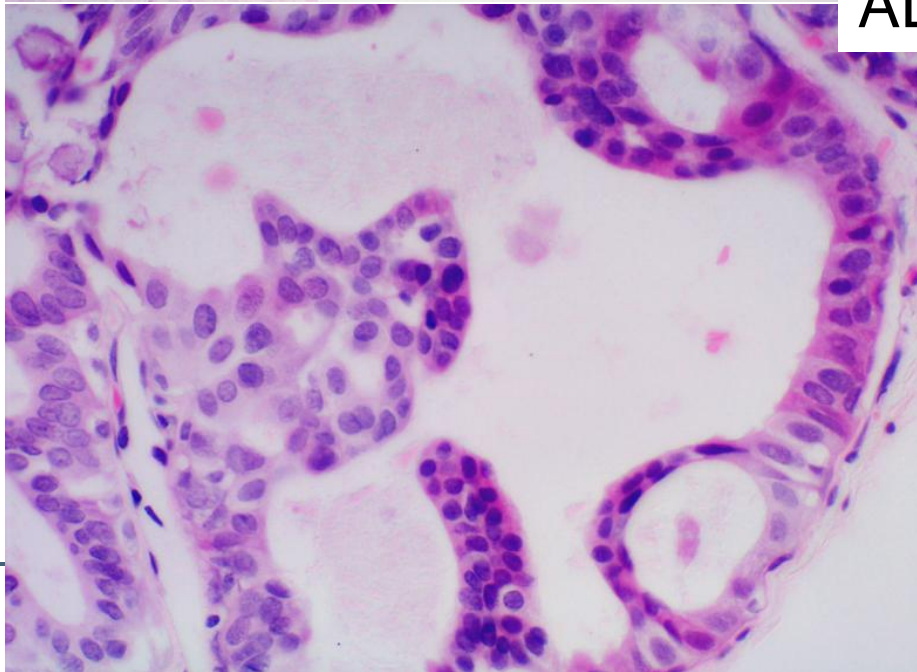
Expect 10,000 new cases annually



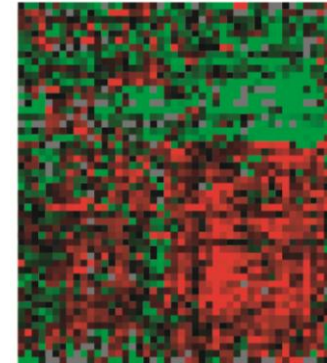
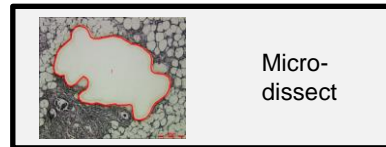
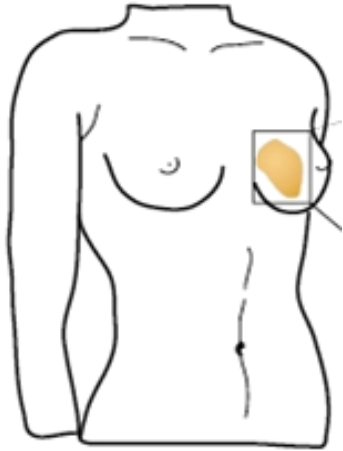
Up to \$1B to treat



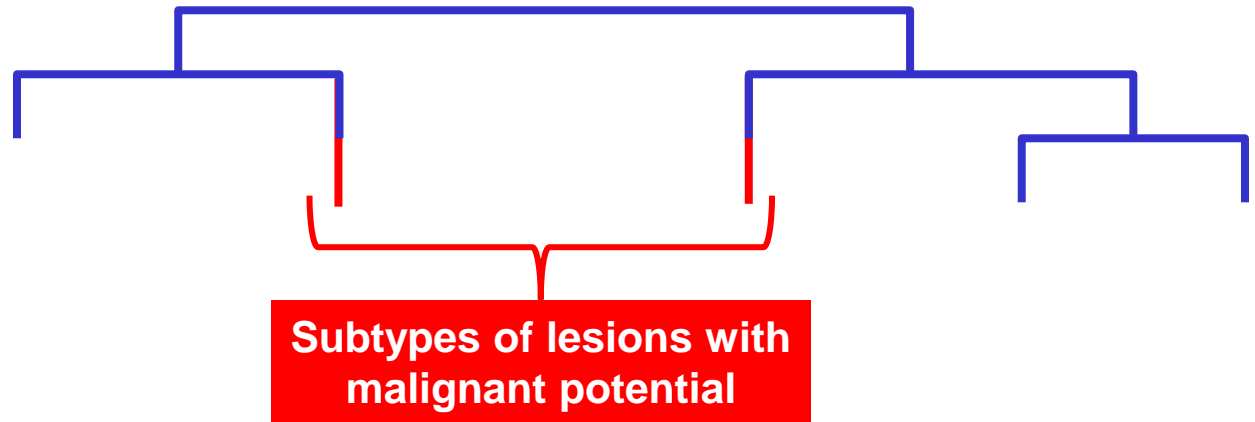
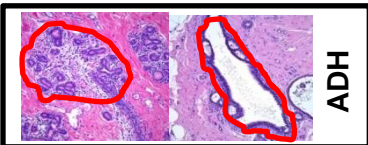
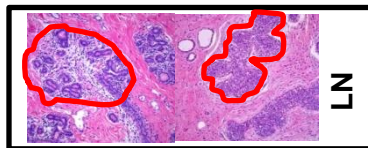
ADH



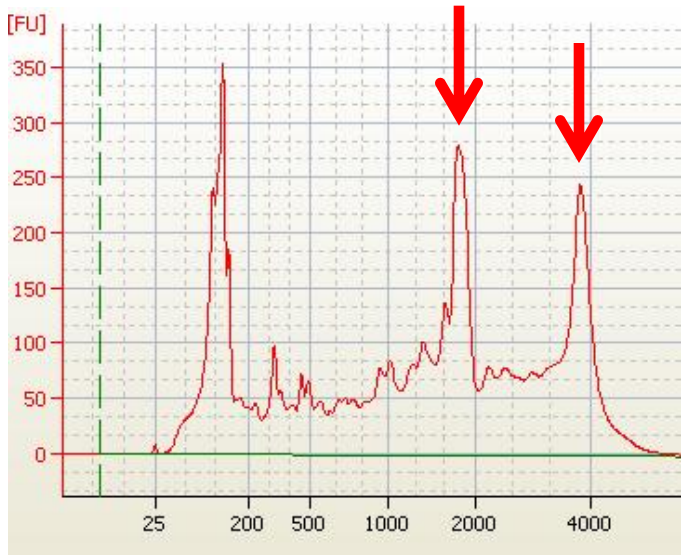
Developing biomarkers of high risk premalignant breast lesions



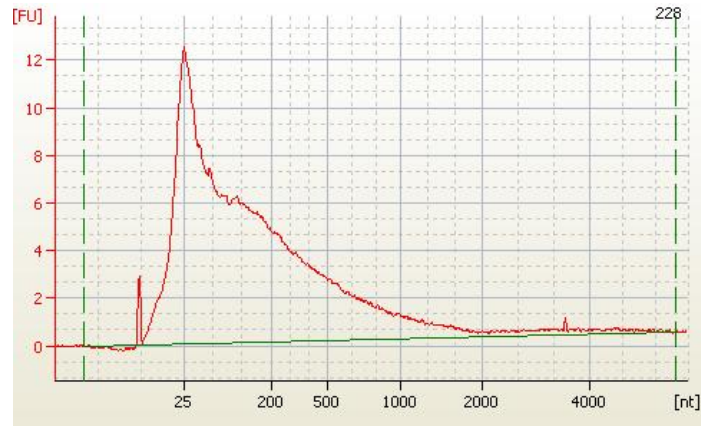
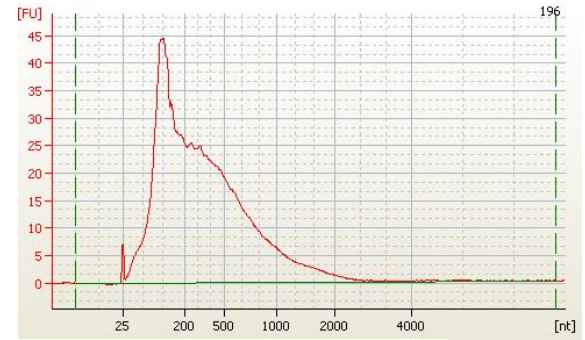
Subtypes of Atypical Hyperplasias



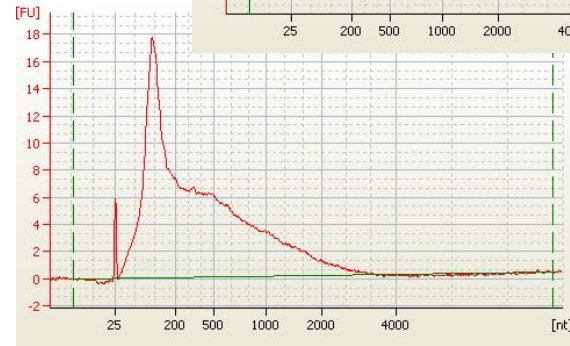
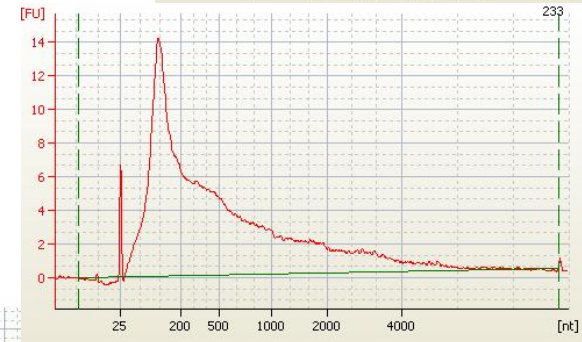
Bioanalyzer electropherograms

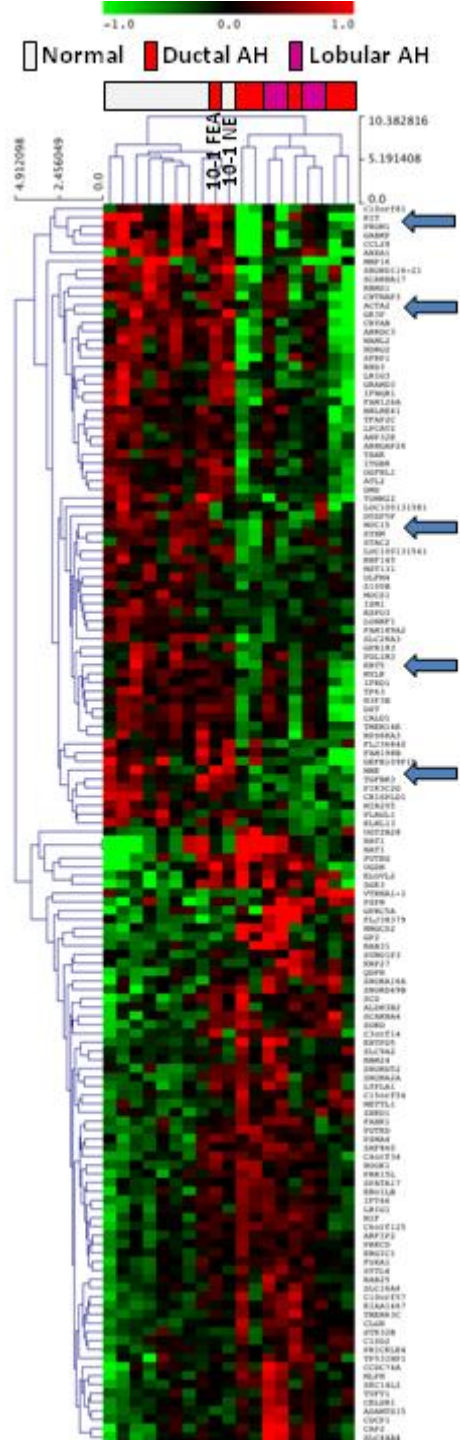
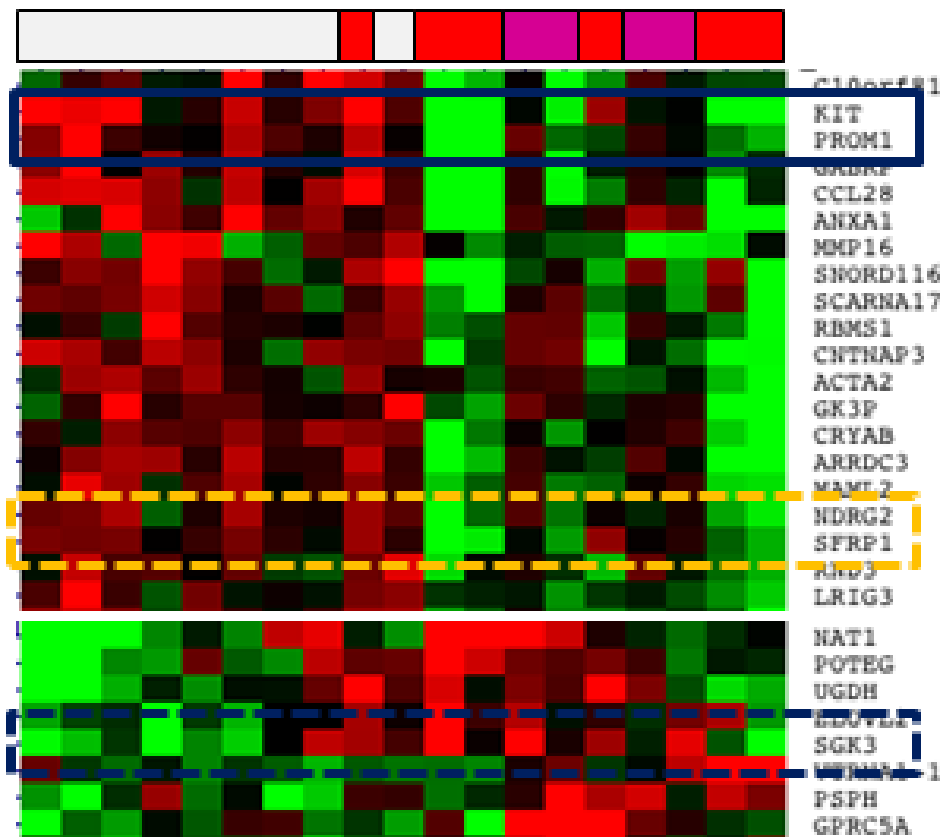


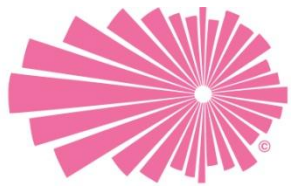
**Intact
RNA**



**FFPE
RNA**







Rays of Hope

Center for Breast Cancer Research

Baystate Regional Cancer Program and the Pioneer Valley Life Sciences Institute



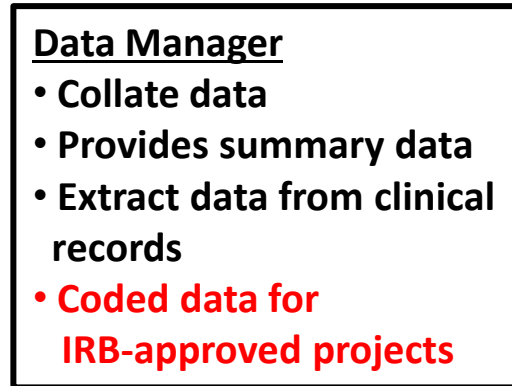
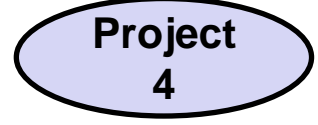
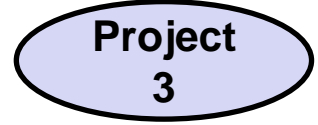
Patient Population:

Diagnosis of Breast Cancer
or Benign Breast Disease

IRB-approved
Registry
Patient consent
Assign study ID

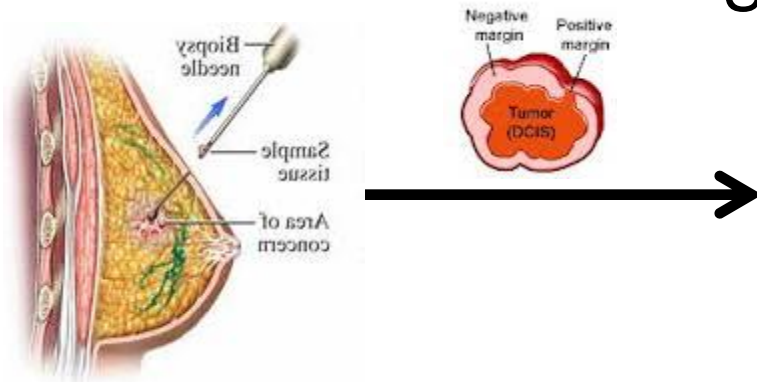


IRB-approved
projects



Atypical hyperplasia (UMMS 1999-2003)

Upstaging upon re-excision



2833 breast core biopsies
120 with primary diagnosis of ADH



Summary

- Value of diagnostic test
 - Large interobserver variability in diagnosing premalignant lesions (Jain et al., 2011. PMID 21532546)
 - Identify subgroups to benefit from preventive therapies.
 - Identify molecular pathways to provide appropriate preventive treatments
- Technical challenges
 - Minute amounts of tissue
 - Fragmentation of RNA in FFPE tissues
 - Amplification and labeling for robust detection



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