Identify novel aging genes using mouse models

2003-2012 (Postdoc, Research Scientist, Core leader of Shock Center of Aging Research at the Jackson Laboratory)

Mouse Family Tree

Female sexual maturation associates with longevity

Knockout NRIP1 (nuclear receptor interacting protein 1) increases longevity

Survival fraction

Log rank test: \( P = 0.0002 \)
Identify a novel breast cancer gene

2012 – present, Assistant Prof.

- Breast cancer ↑
- Ovarian cancer ↑
- Endometrial cancer ↑
- Blood pressure ↑
- Glucose intolerance ↑
- Obesity ↓
- Diabetes ↓
- Fertility ↓

Age at menarche (years)

Per capita income (US $1000)

Identify a novel breast cancer gene

NRIP1 EXPRESSION
(Relative quantitation to MCF10A)

P < 0.05

20X
40X

Benign
Malignant
Luminal
Triple neg
HER2

P < 0.05

MCF10A MB231 ZR75 Hs578T HCC1954 MX1 HCC1806 BT20 MCF7 T47D
Identify a novel breast cancer gene

Potential collaborations to study:

- If there are disparities in the age at menarche (AAM), and
- If the AAM associates with risk and mortality rate of breast cancer in IL and MO
- If there are genetic polymorphisms or variations in gene expressions and activities of NRIP1, and
- If these variations associate with the disparities in the risk or mortality rate of breast cancer