

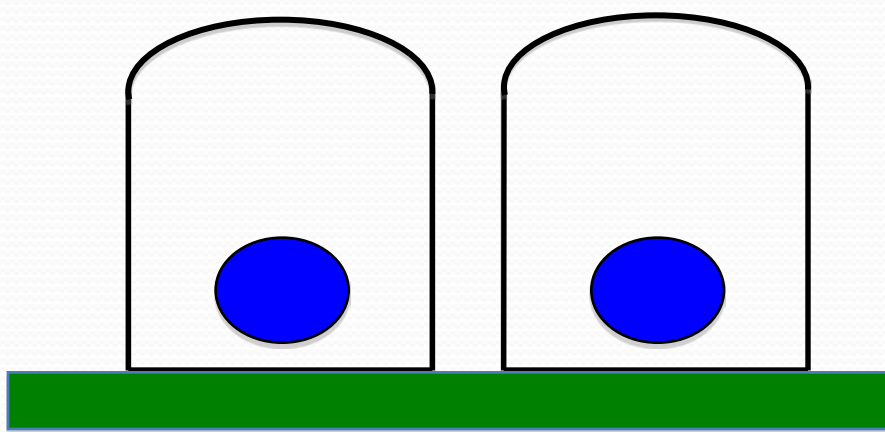
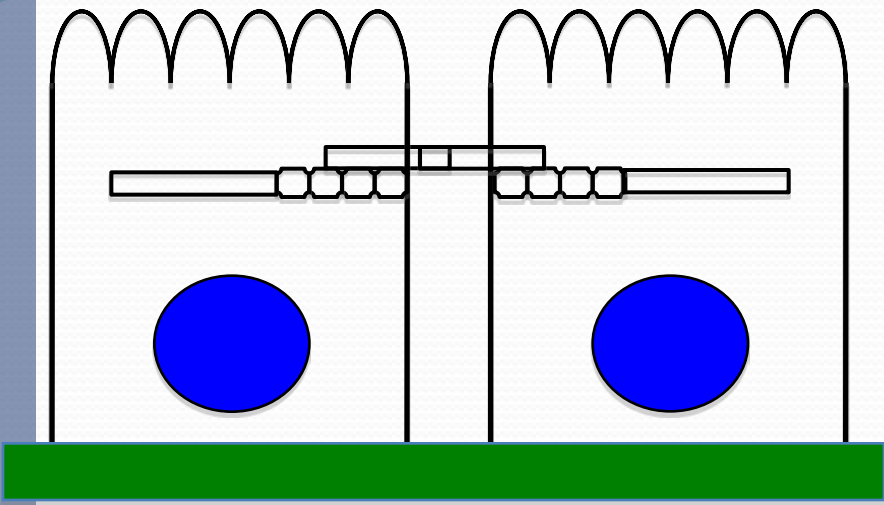
# **NRAGE interactions with TBX2 and Ankyrin-G: a pathway for the control of Anoikis by E-Cadherin and EMT.**

**Ryan Ice<sup>1</sup>, Sanjeev Kumar<sup>1</sup>, Jane Schupp<sup>1</sup>, Sun Hee Park<sup>1</sup>, Benjamin Cieply<sup>1</sup>, Jamie Senft<sup>1</sup>, Elizabeth Killiam<sup>2</sup>, David Rimm<sup>2</sup>, and Steven M. Frisch<sup>1</sup>**

**(1) Department of Biochemistry and Mary Babb Randolph Cancer Center West Virginia Univ., (2) Department of Pathology Yale Univ.**

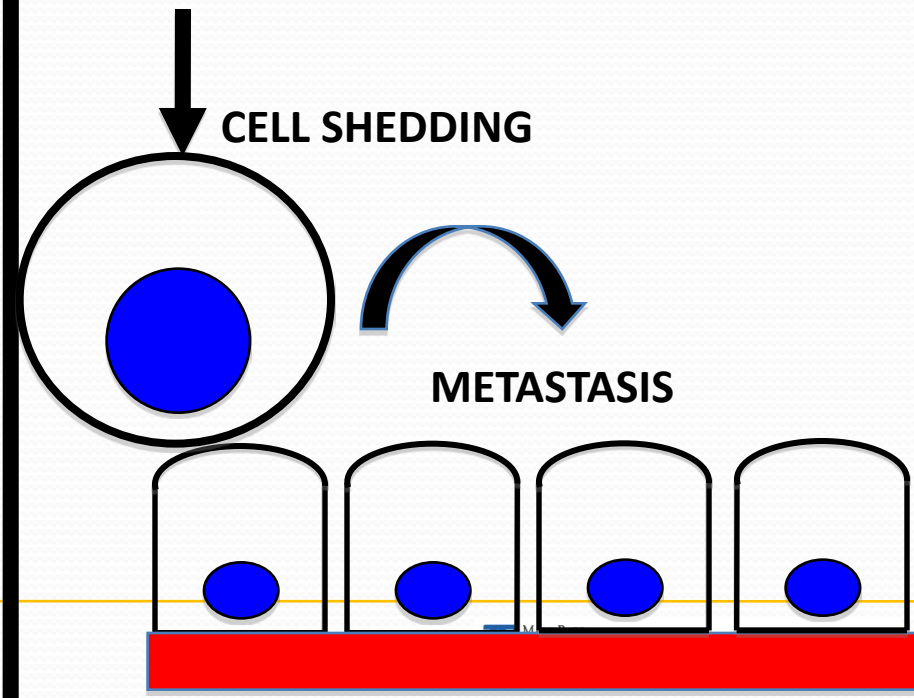
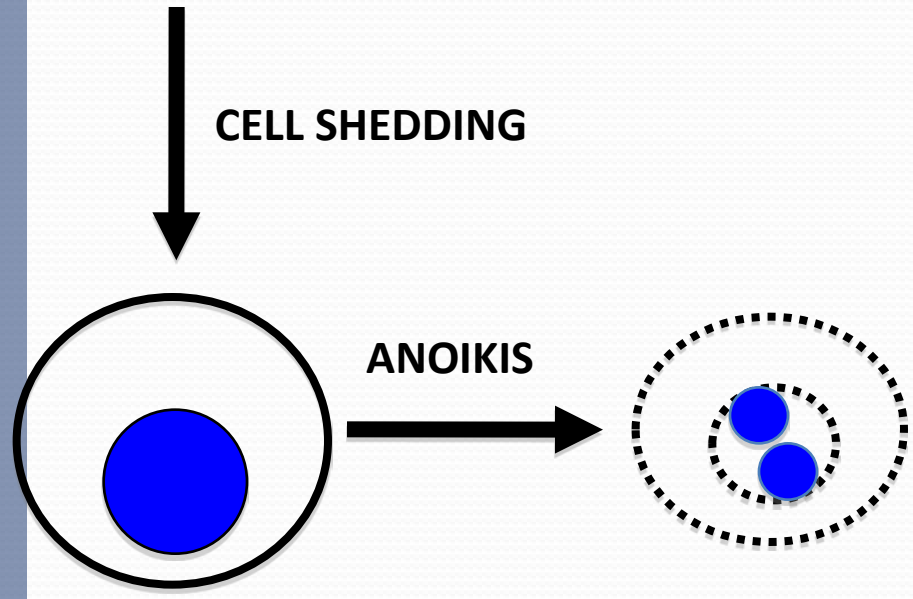
# NORMAL CELLS

# TUMOR CELLS



CELL SHEDDING

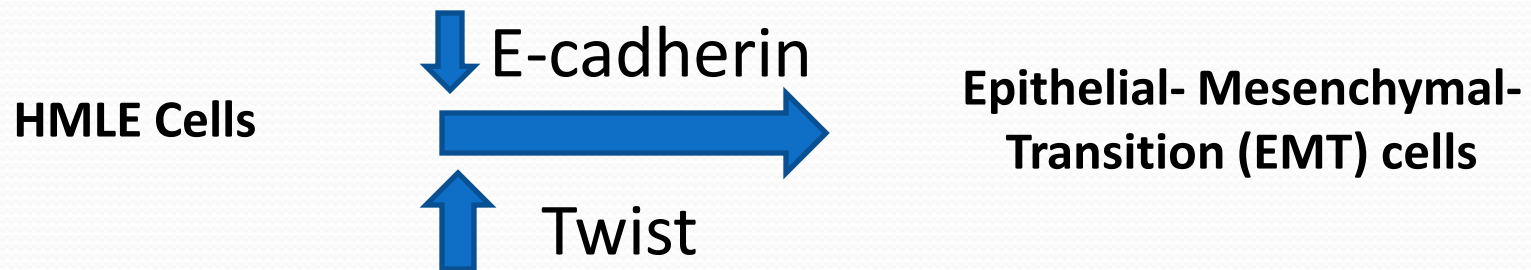
CELL SHEDDING



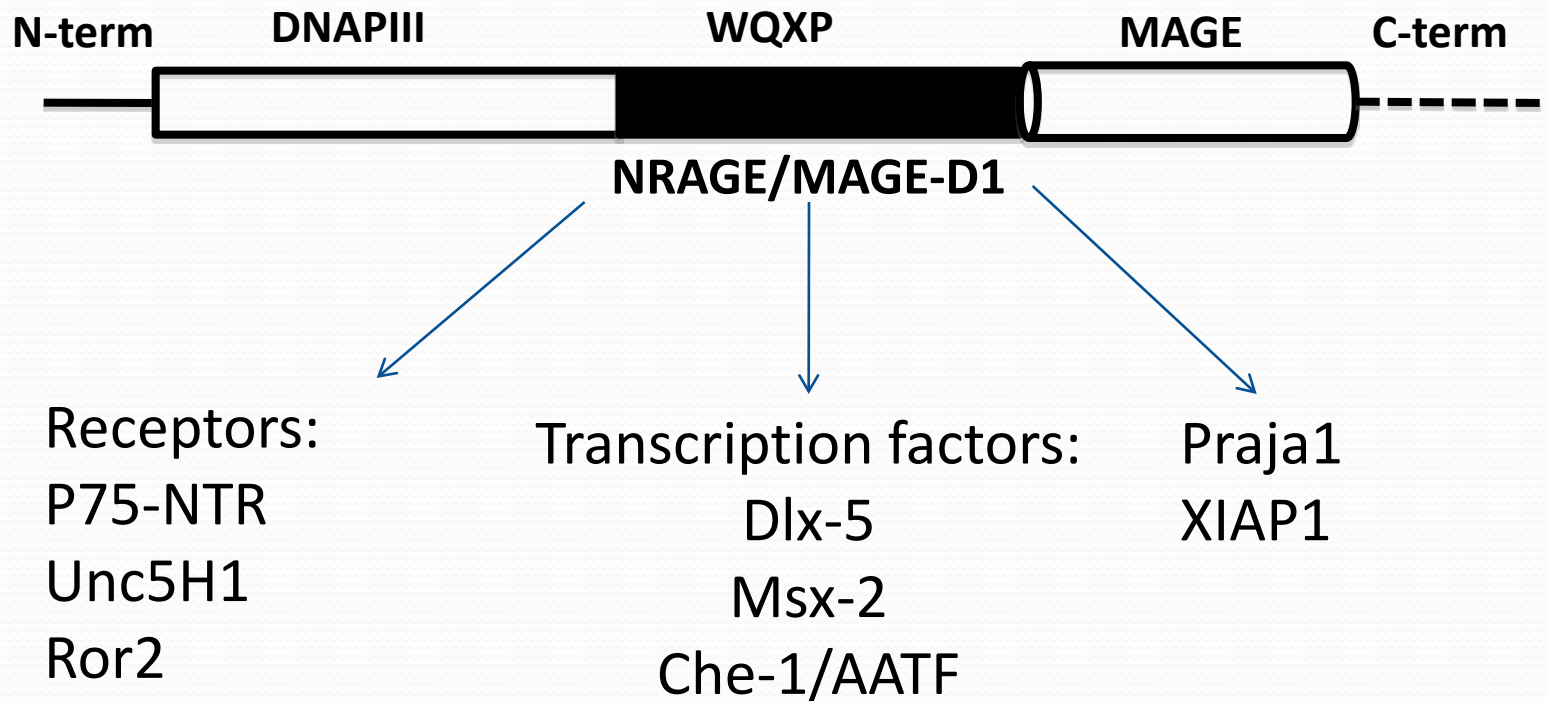
# Loss of E-Cadherin Promotes Metastasis via Multiple Downstream Transcriptional Pathways

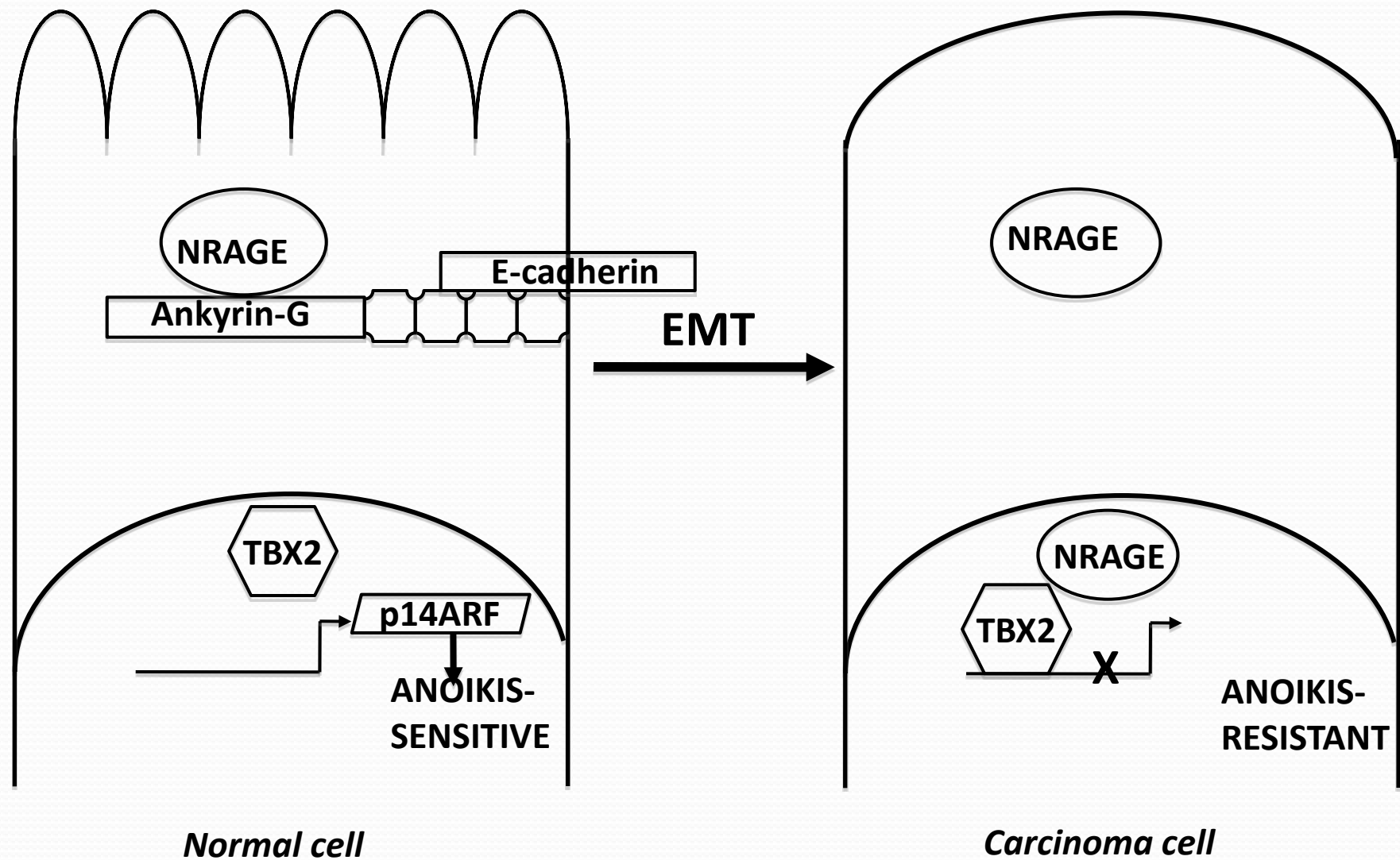
Tamer T. Onder, Piyush B. Gupta, Sendurai A. Mani, Jing Yang, Eric S. Lander, and Robert A. Weinberg

*Cancer Research*, 2008

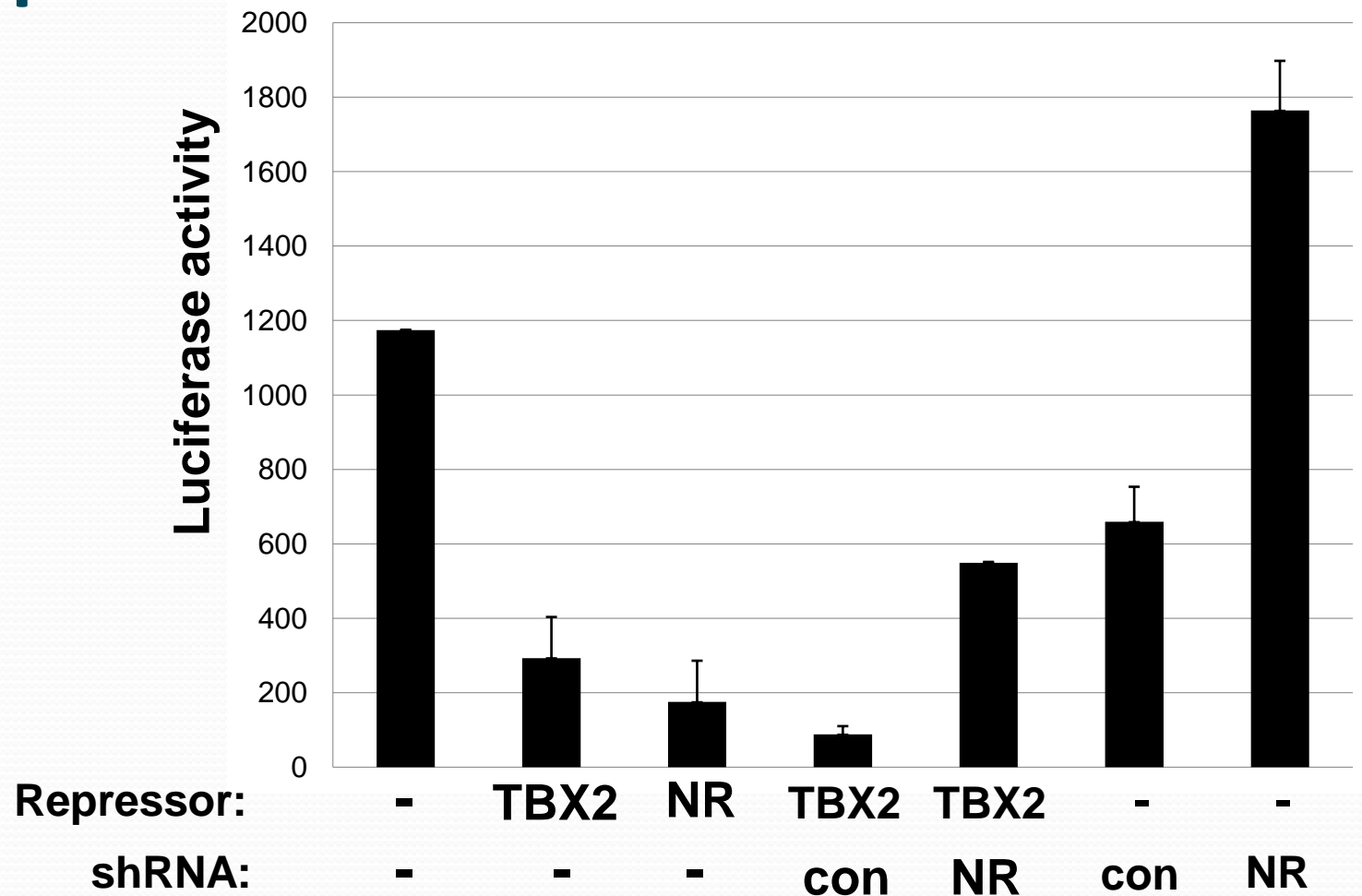


# NRAGE: Neurotrophin Receptor-Interacting protein of the MAGE (Melanoma antigen) family

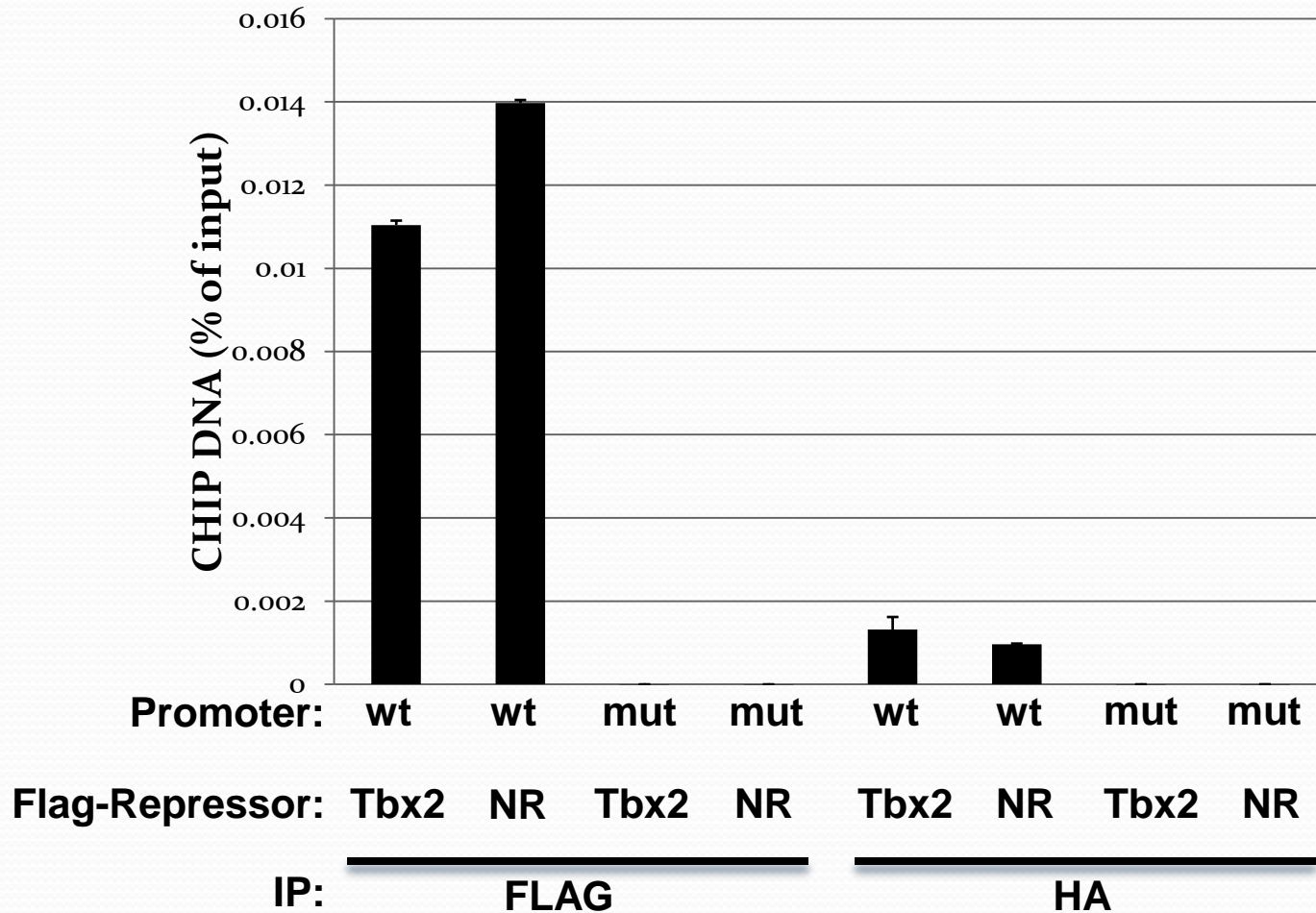




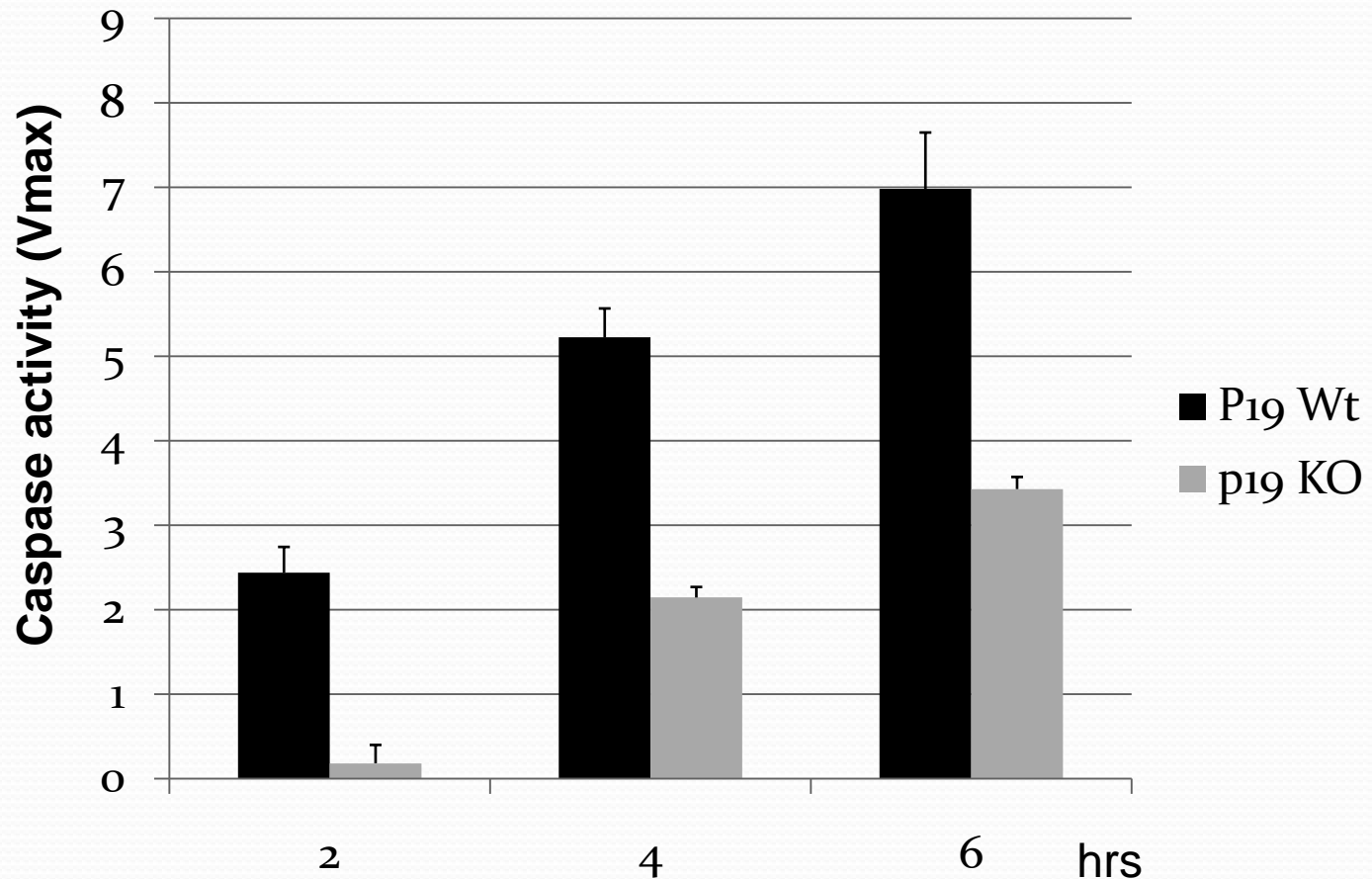
# NRAGE is needed for TBX2 repression of p14Arf



# NRAGE is in a complex with p14Arf Promoter via the T-Box (CHIP)



# Knockout p19Arf MEFS have reduced Anoikis



# NEAR-FUTURE DIRECTIONS

**--HOW DOES P14ARF PROMOTE ANOIKIS?**

**--HOW DOES EMT CONTROL ANKYRIN EXPRESSION?**

**--EFFECT OF NRAGE KNOCKOUT ON METASTASIS (MOUSE MODEL)**

# Acknowledgments

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- Jane Schupp**
- Sanjeev Kumar**
- Sun Park**
- Ben Cieply**

## **Also to :**

**R. Weinberg Lab**

**Alexey Ivanov**

**Jamie Senft**

**Elizabeth Killiam**

**David Rimm**