The background features a dark blue gradient with faint, light blue circular patterns and a scale. The scale is a large arc on the left side, with numerical markings from 140 to 260 in increments of 10. Several smaller circles and arcs are scattered across the background, some with arrows indicating direction. The overall aesthetic is technical and scientific.

# Modulation of Angiotensin Expression Through CRISPR Endonuclease and Transcription Activators

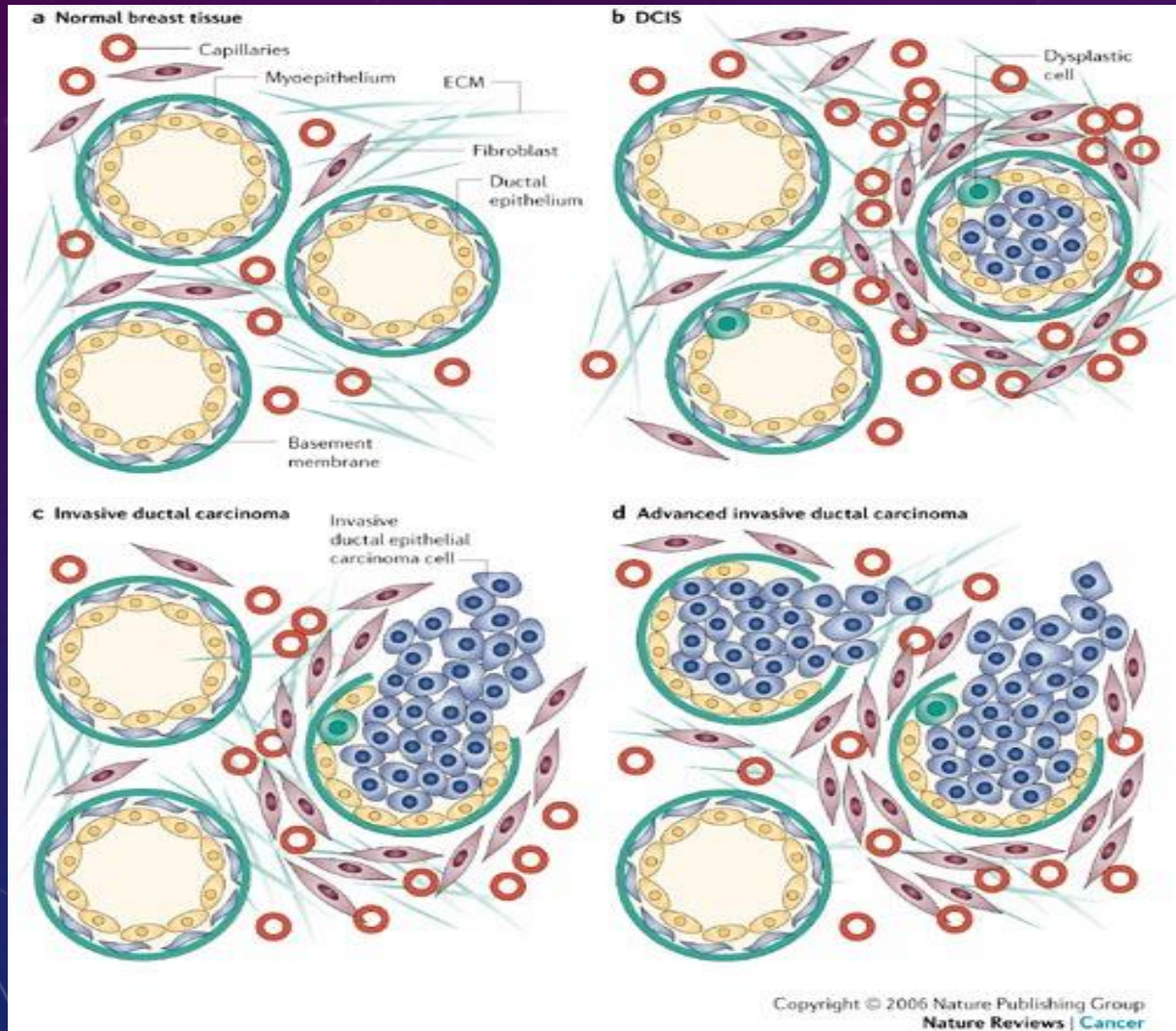
MATTHEW H. GOELZER

ORAL ROBERTS UNIVERSITY

# OUTLINE

- Breast Cancer
- Angiotensin Protein
- CRISPR Endonuclease
- CRISPR Transcription Activation
- Results

# BREAST CANCER

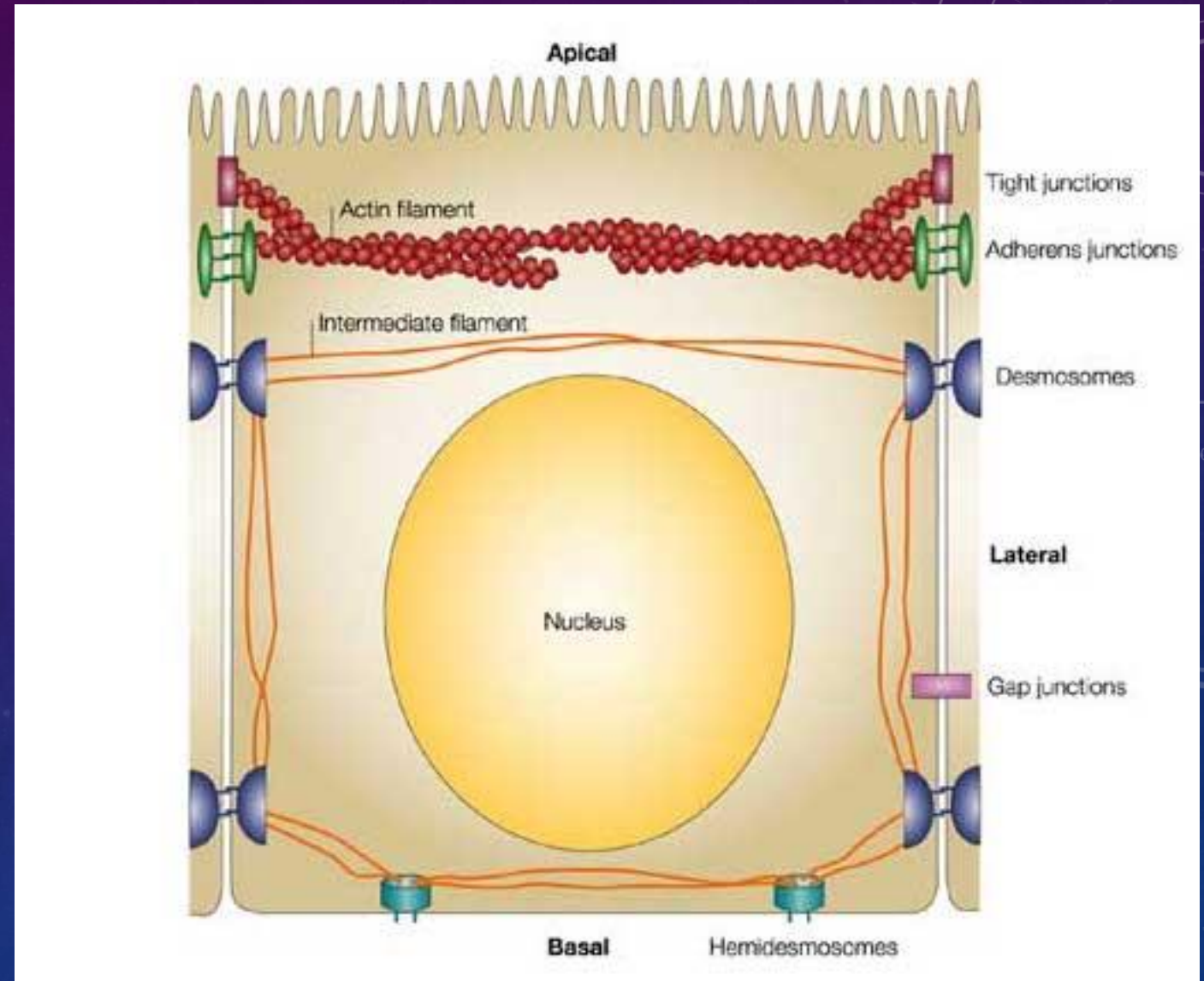


- Most Cancer In Lumen
- Epithelial-Mesenchymal Transition

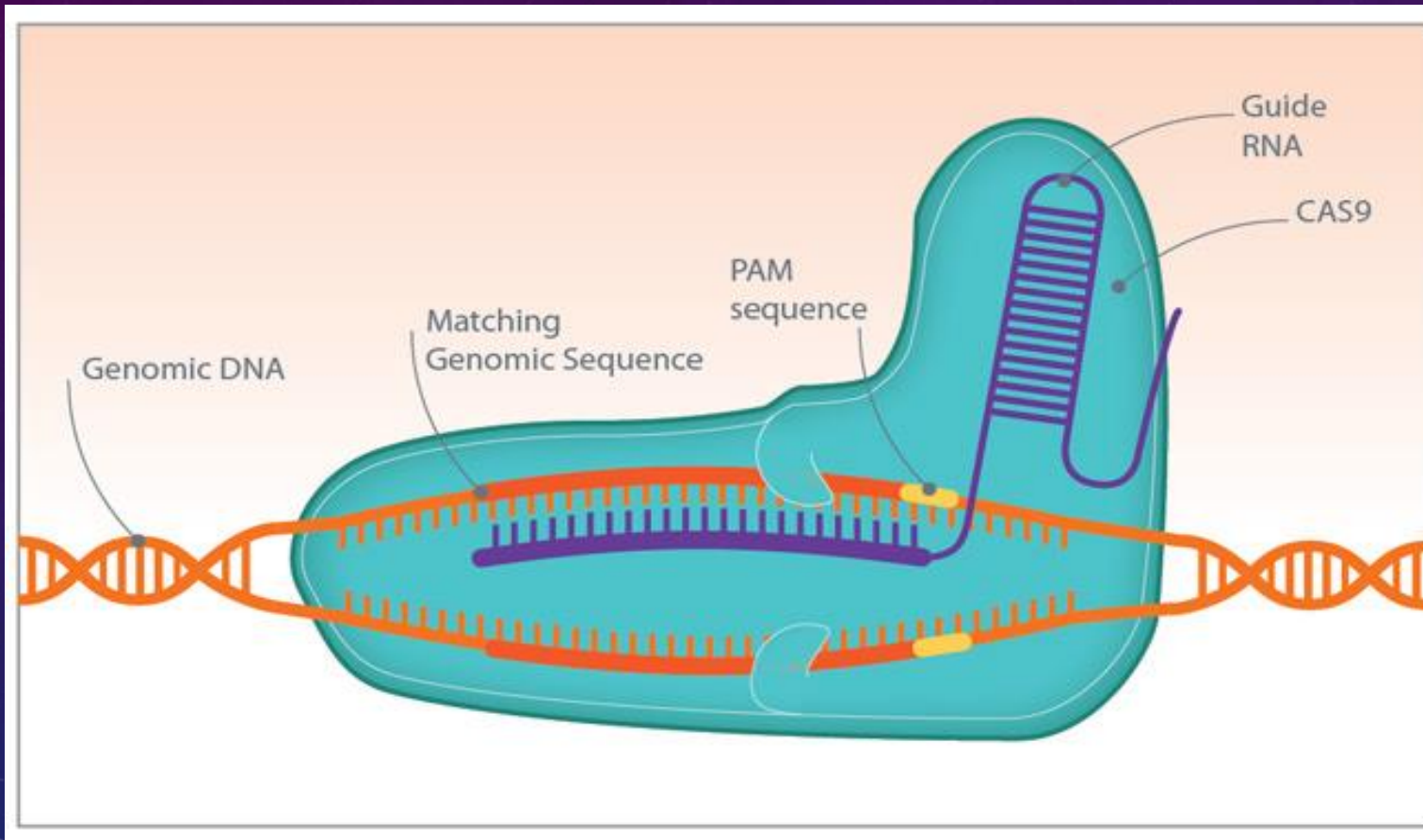


# ANGIOMOTIN

- Apical Polarity Adapter Protein
- Tight Junctions
- Causes Loss of Polarity



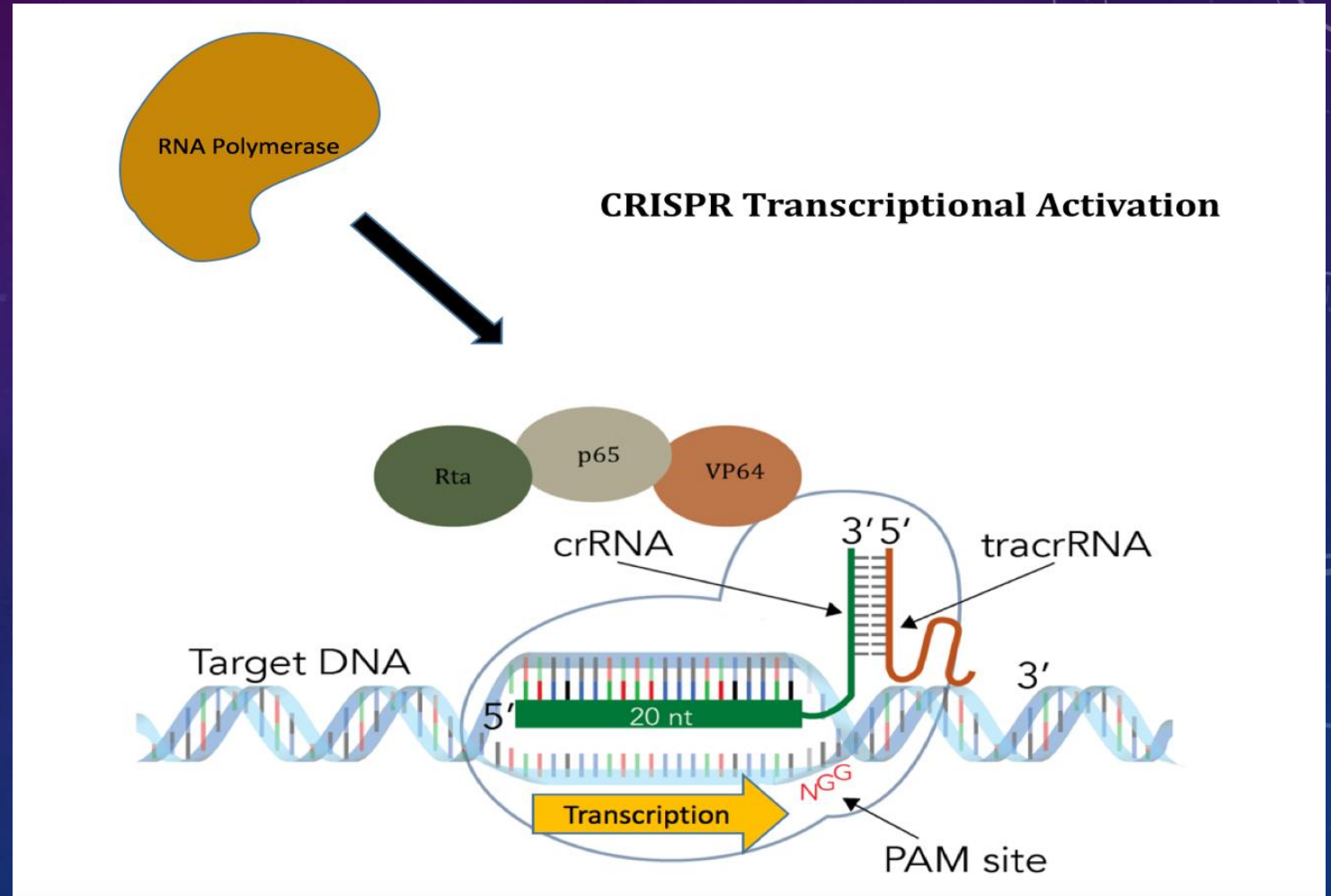
# CRISPR-CAS9



- Causes Double Strand DNA Break (DSB)
- Non-Homologous End Joining (NHEJ)
- Frameshift Mutation
- Gene Silencing

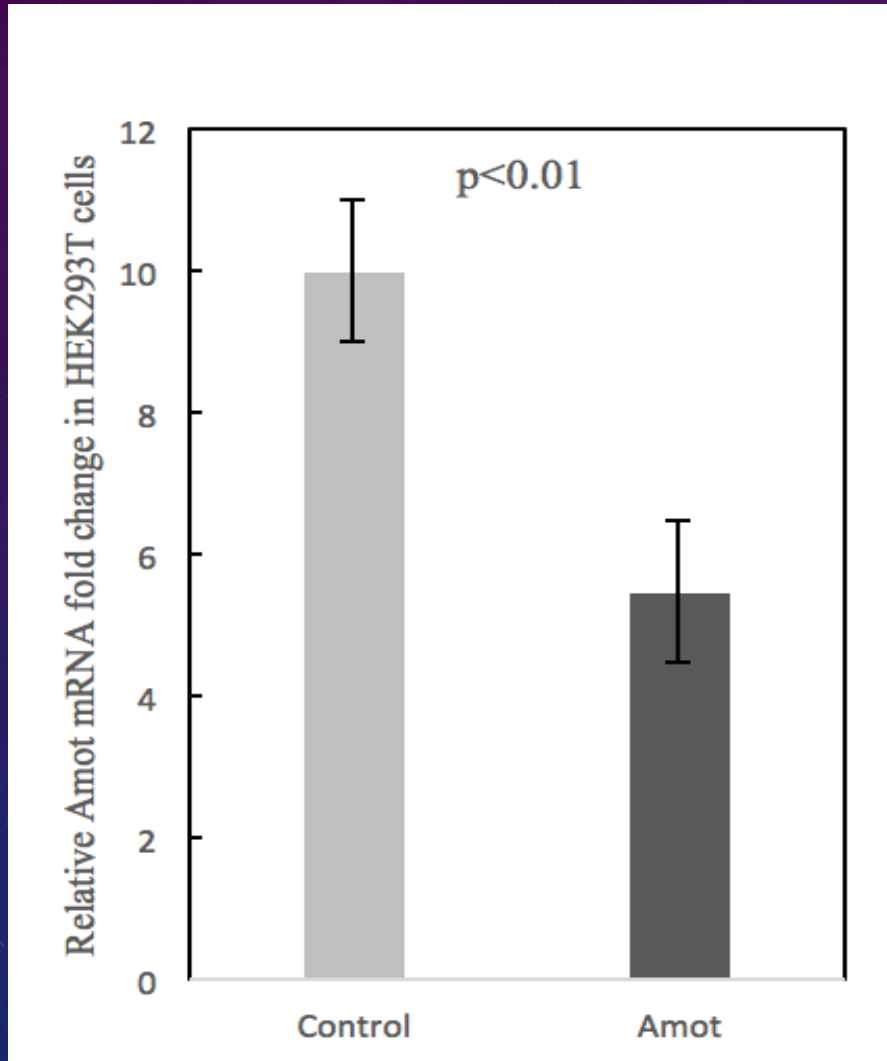
# CRISPR-VPR

- Transcription Activators Attached
- Initiates Transcription
- Analogous Transcription





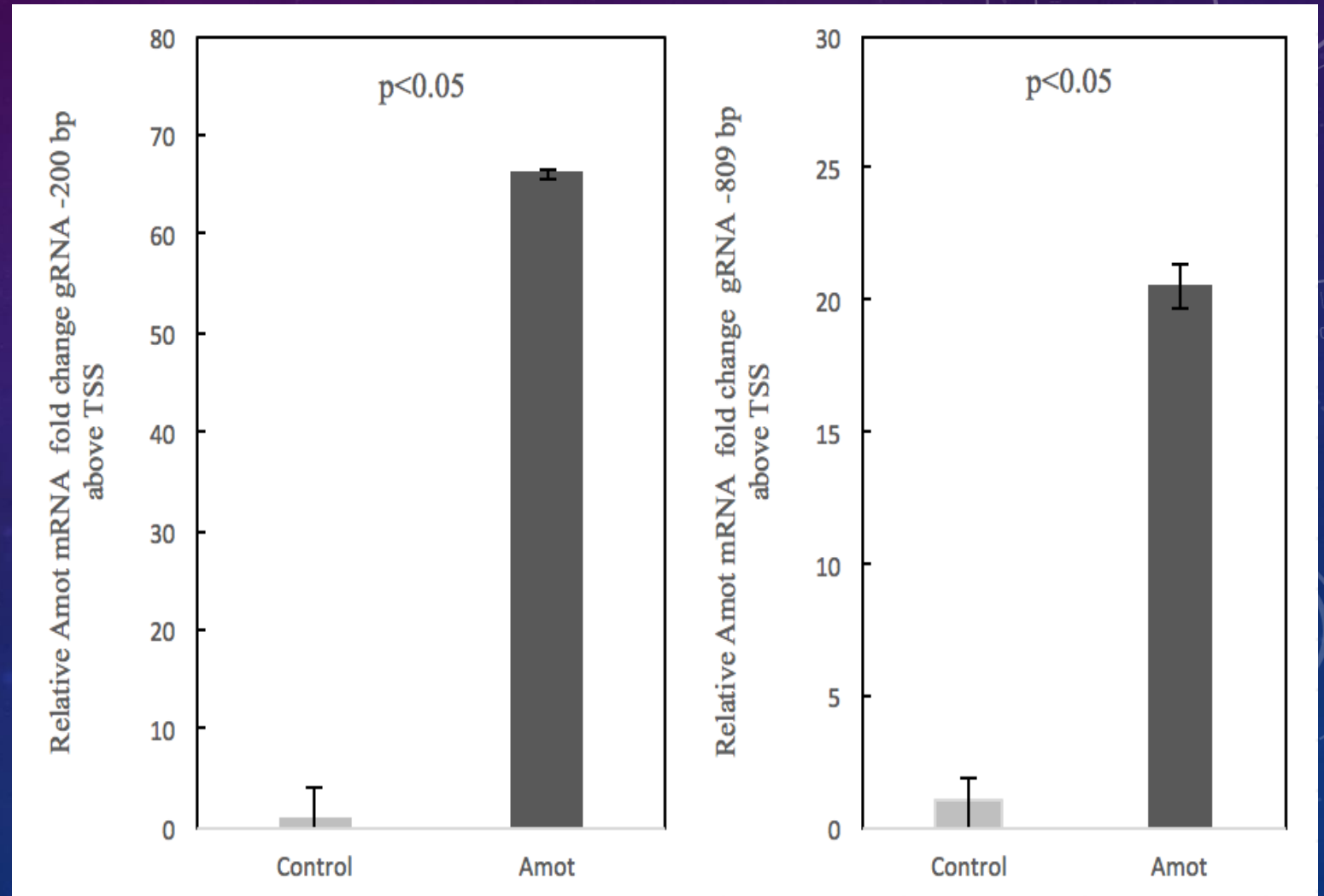
# CRISPR-CAS9 RESULTS



- ~50% Reduction in Angiotensin II mRNA
- Potential Breast Cancer Treatment

# CRISPR-VPR RESULTS

- 67 Fold Increase of Angiotensin mRNA
- Better Expression Mechanism





# CONCLUSION

- Successful Reduction in Angiomotin expression
- Significant Overexpression of Angiomotin

# FUTURE RESEARCH

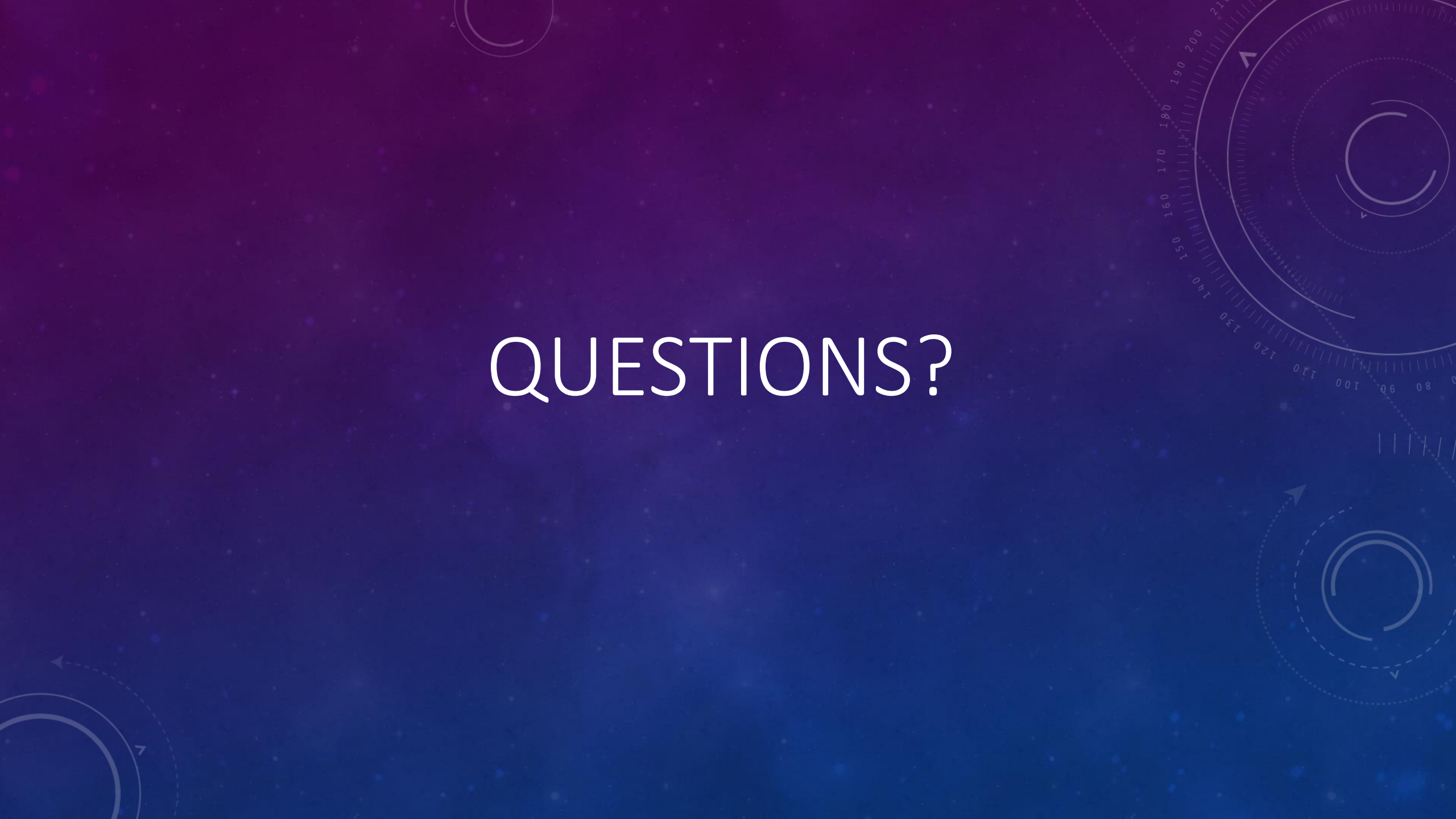
- Angiotensin Silencing in Different Cell Types
- Produce Permanent Angiotensin Overexpression

# OVERVIEW

- Breast Cancer and Angiomotin
- Angiomotin Silencing
- Angiomotin Overexpression



QUESTIONS?



# REFERENCES

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