Modulation of Angiomotin Expression Through CRISPR Endonuclease and Transcription Activators

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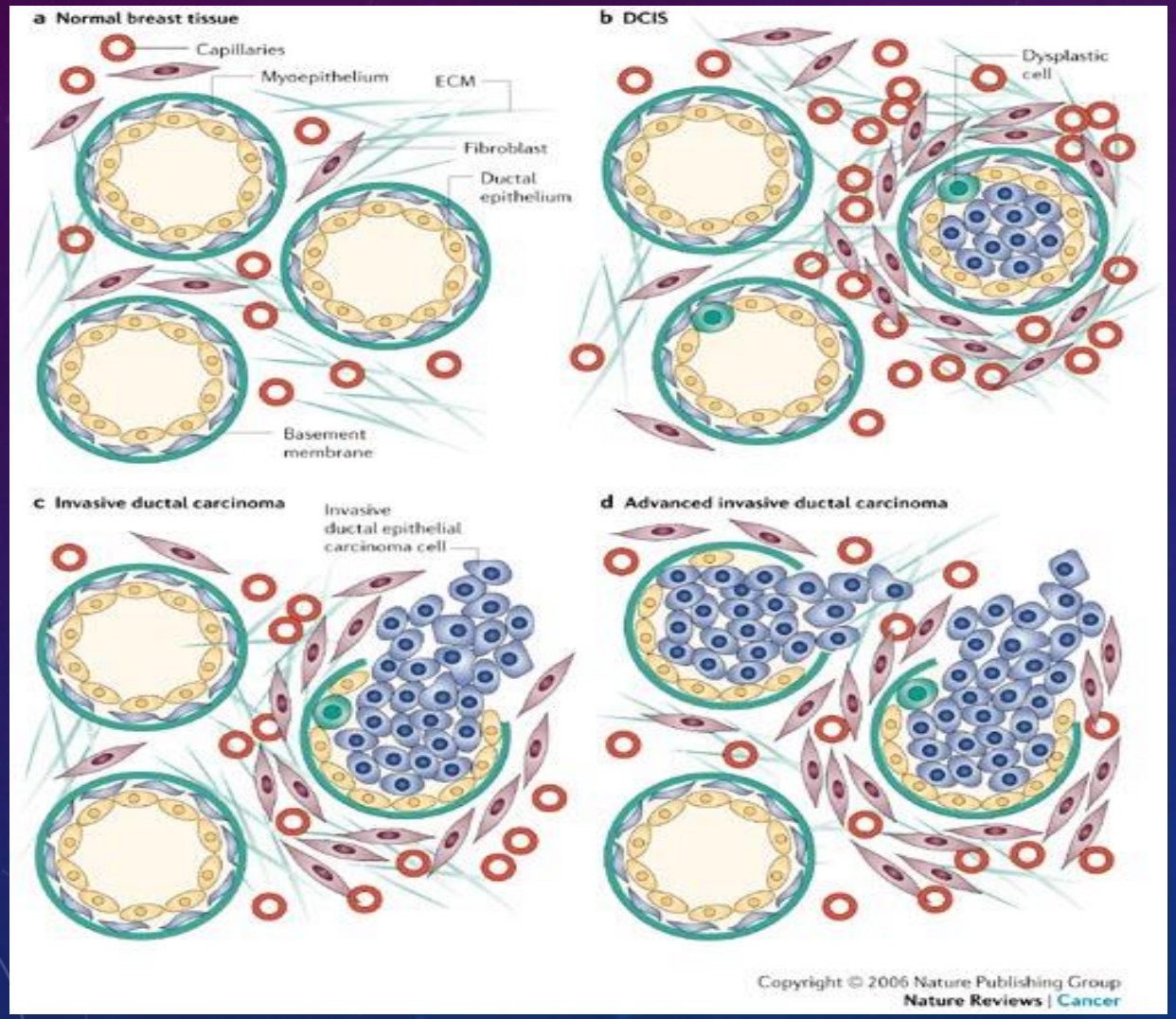
OUTLINE

- Breast Cancer
- Angiomotin Protein
- CRISPR Endonuclease
- CRIPSR Transcription Activation
- Results

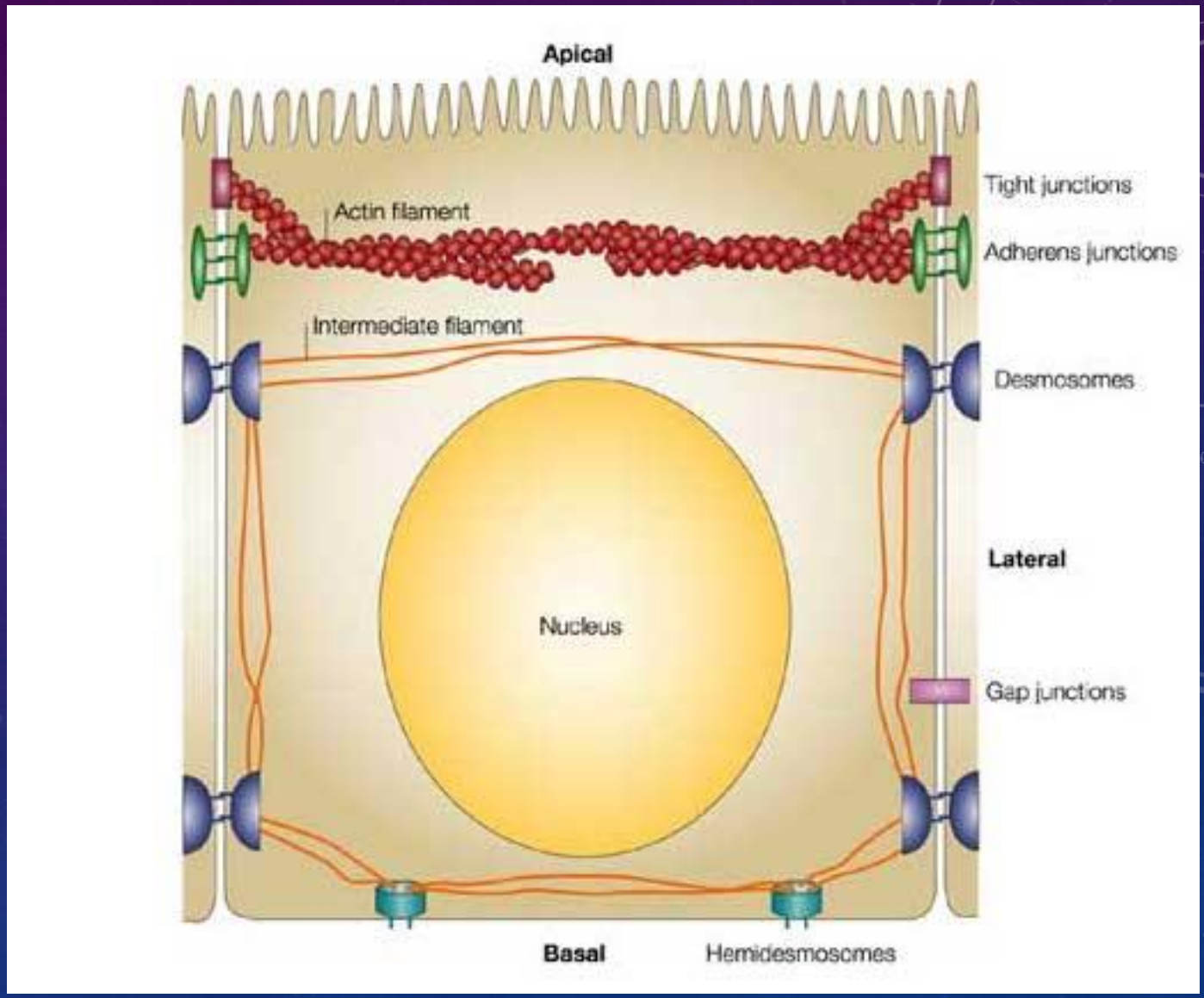
BREAST CANCER



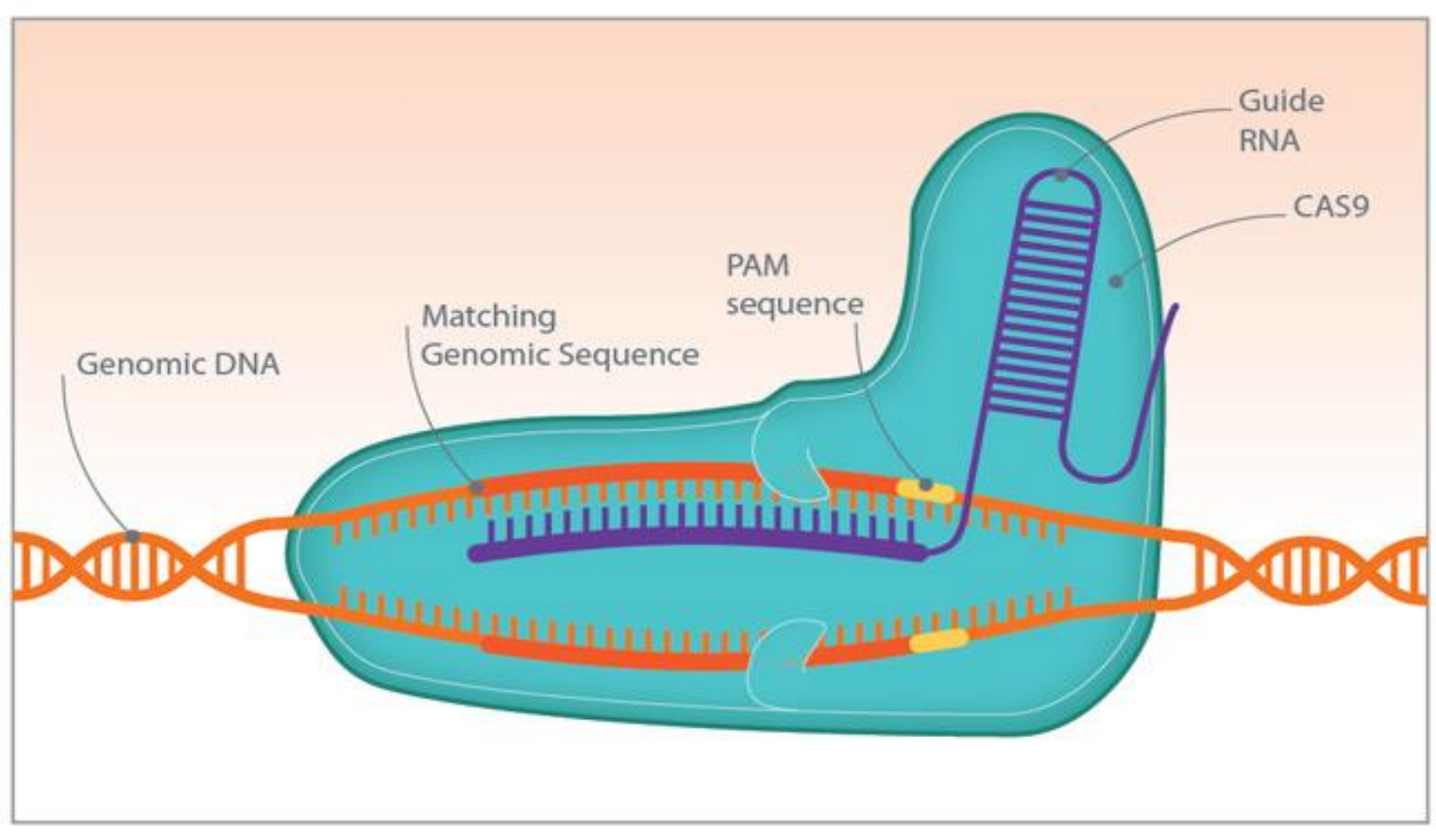
- Most Cancer In Lumen
- Epithelial-Mesenchymal Transition

ANGIOMOTIN

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



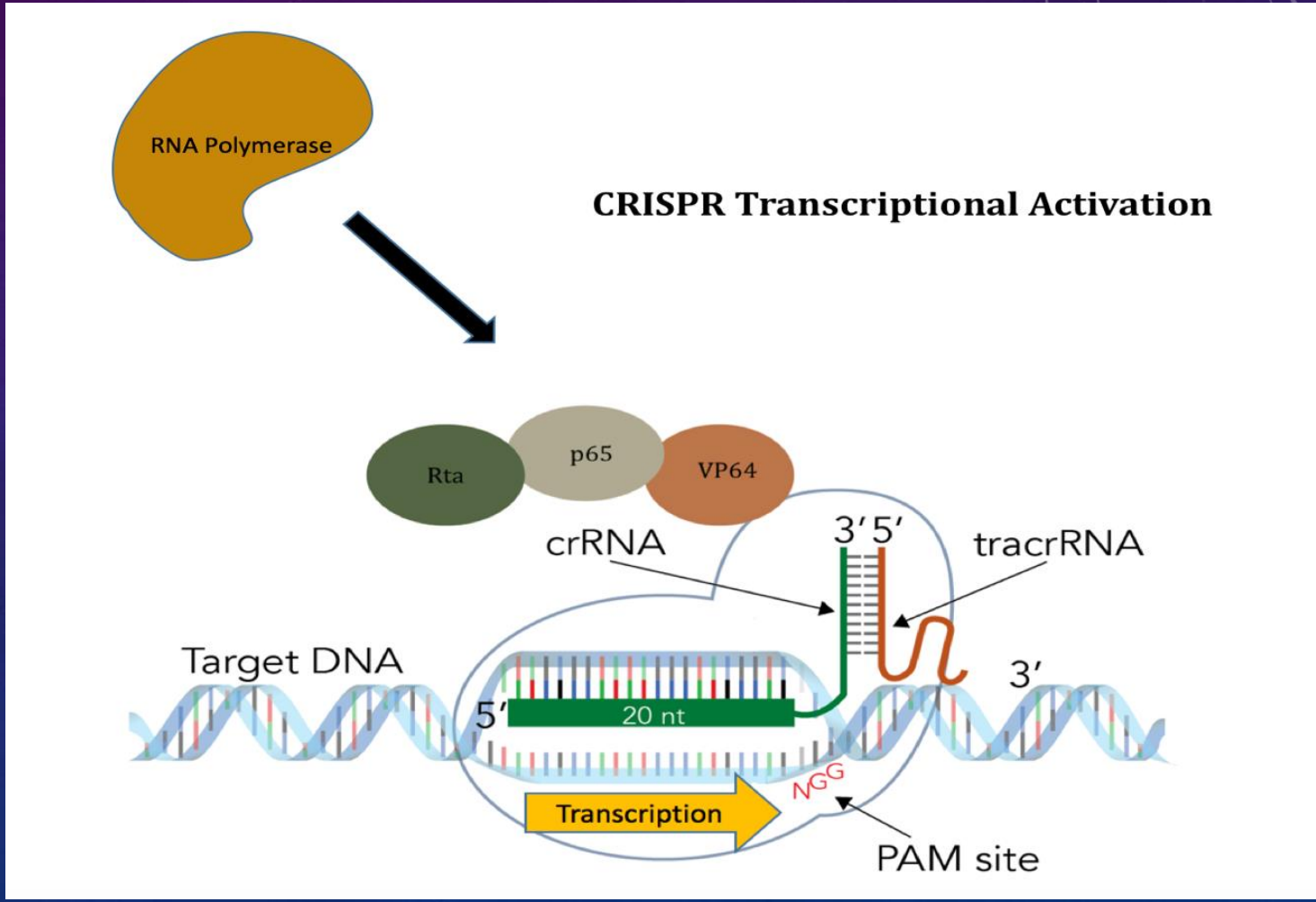
CRISPR-CAS9



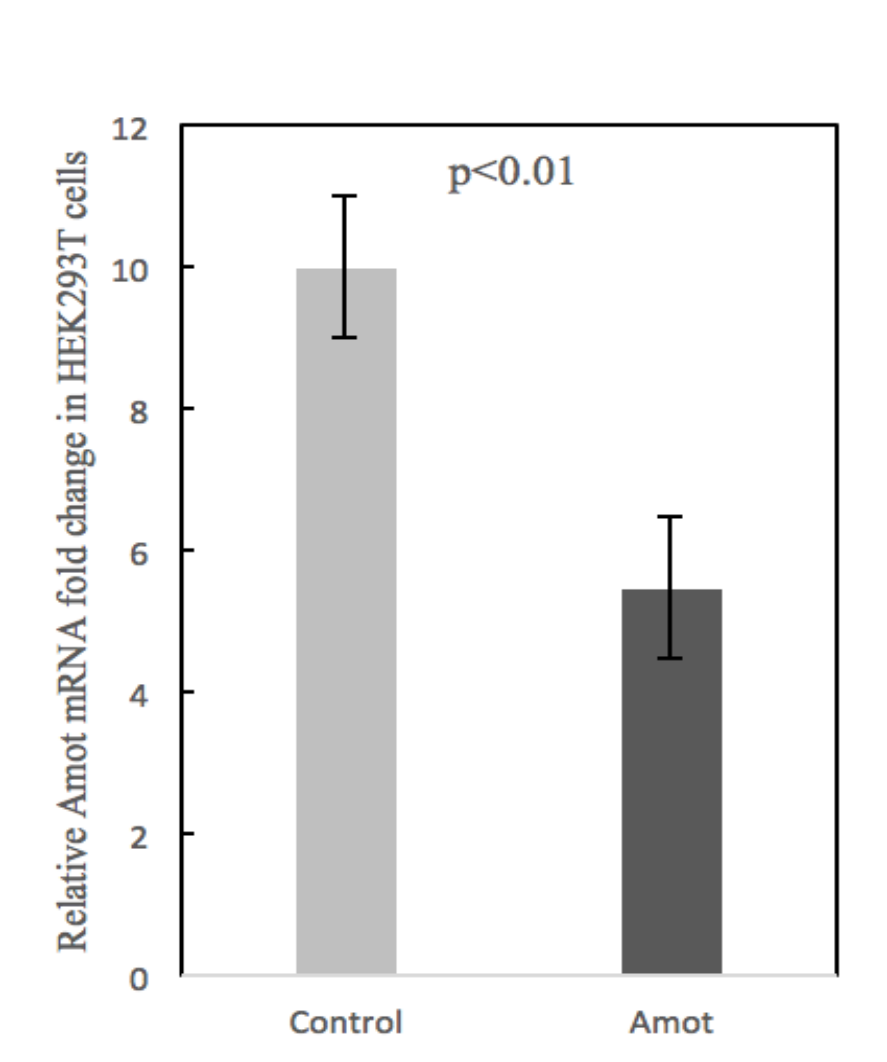
- Causes Double Strand DNA Break (DSB)
- Non-Homologous End Joining (NHEJ)
- Frameshift Mutation
- Gene Silencing

CRISPR-VPR

- Transcription Activators Attached
- Initiates Transcription
- Analogous Transcription



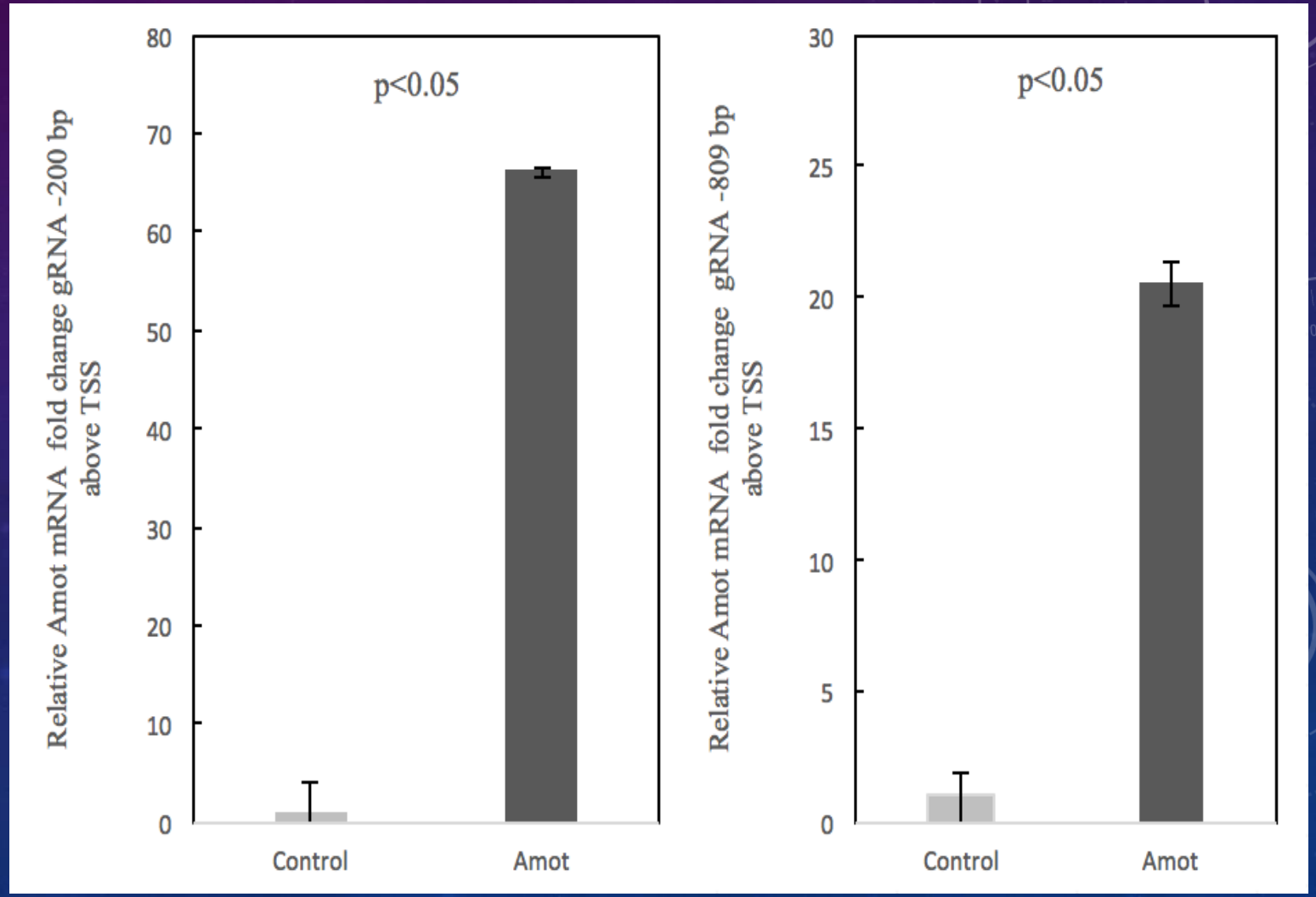
CRISPR-CAS9 RESULTS



- ~50% Reduction in Angiomotin mRNA
- Potential Breast Cancer Treatment

CRISPR-VPR RESULTS

- 67 Fold Increase of Angiomotin mRNA
- Better Expression Mechanism



CONCLUSION

- Successful Reduction in Angiomotin expression
- Significant Overexpression of Angiomotin

FUTURE RESEARCH

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

OVERVIEW

- Breast Cancer and Angiomotin
- Angiomotin Silencing
- Angiomotin Overexpression

QUESTIONS?

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