

MOLECULAR ANALYSIS OF RETT SYNDROME GENES EXPRESSION IN SOLID TUMOR: A BIOINFORMATICS VIEW ON INVERSE RELATIONSHIP OF RETT SYNDROME AND SOLID TUMOR

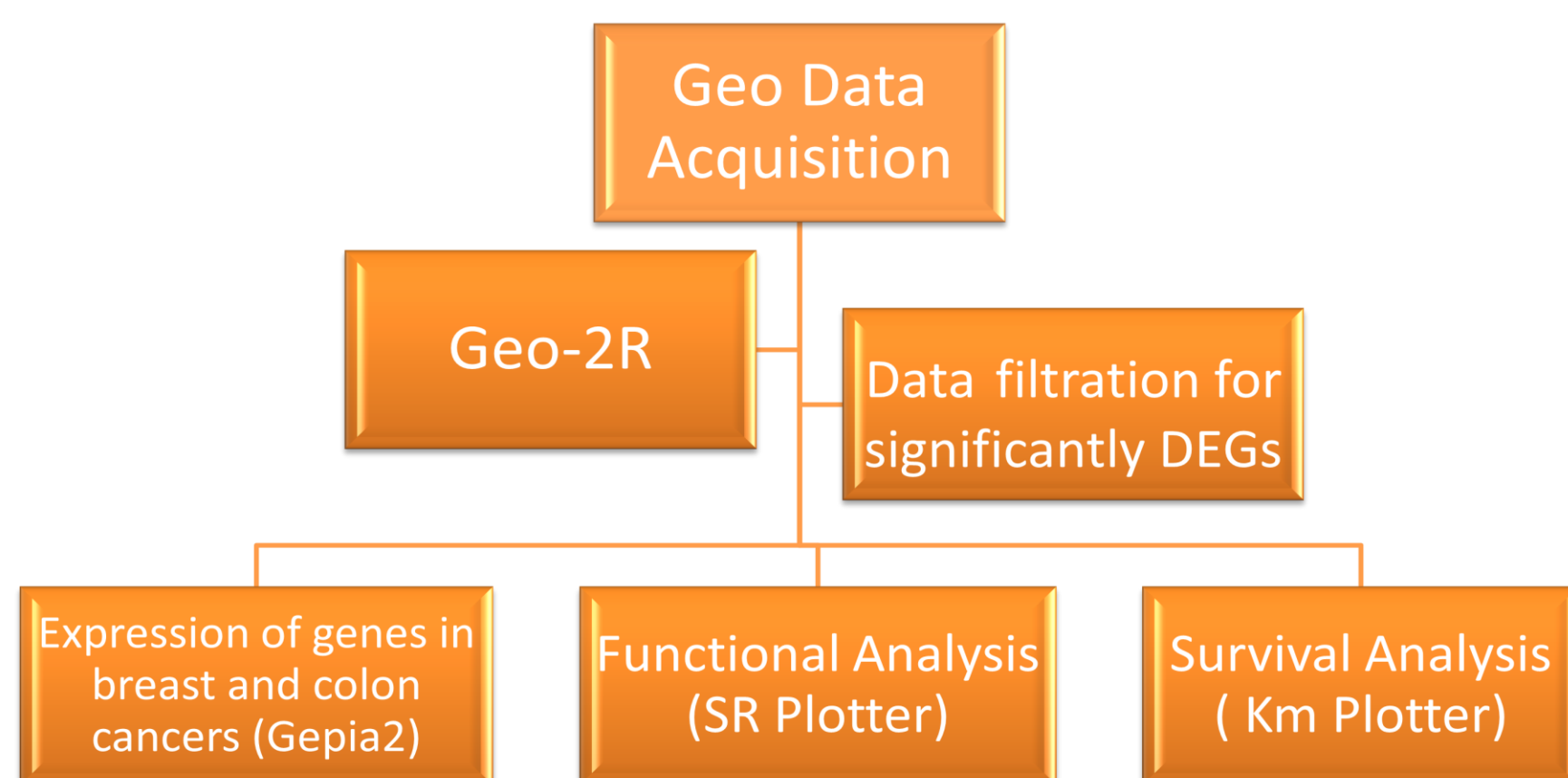
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INTRODUCTION & AIM

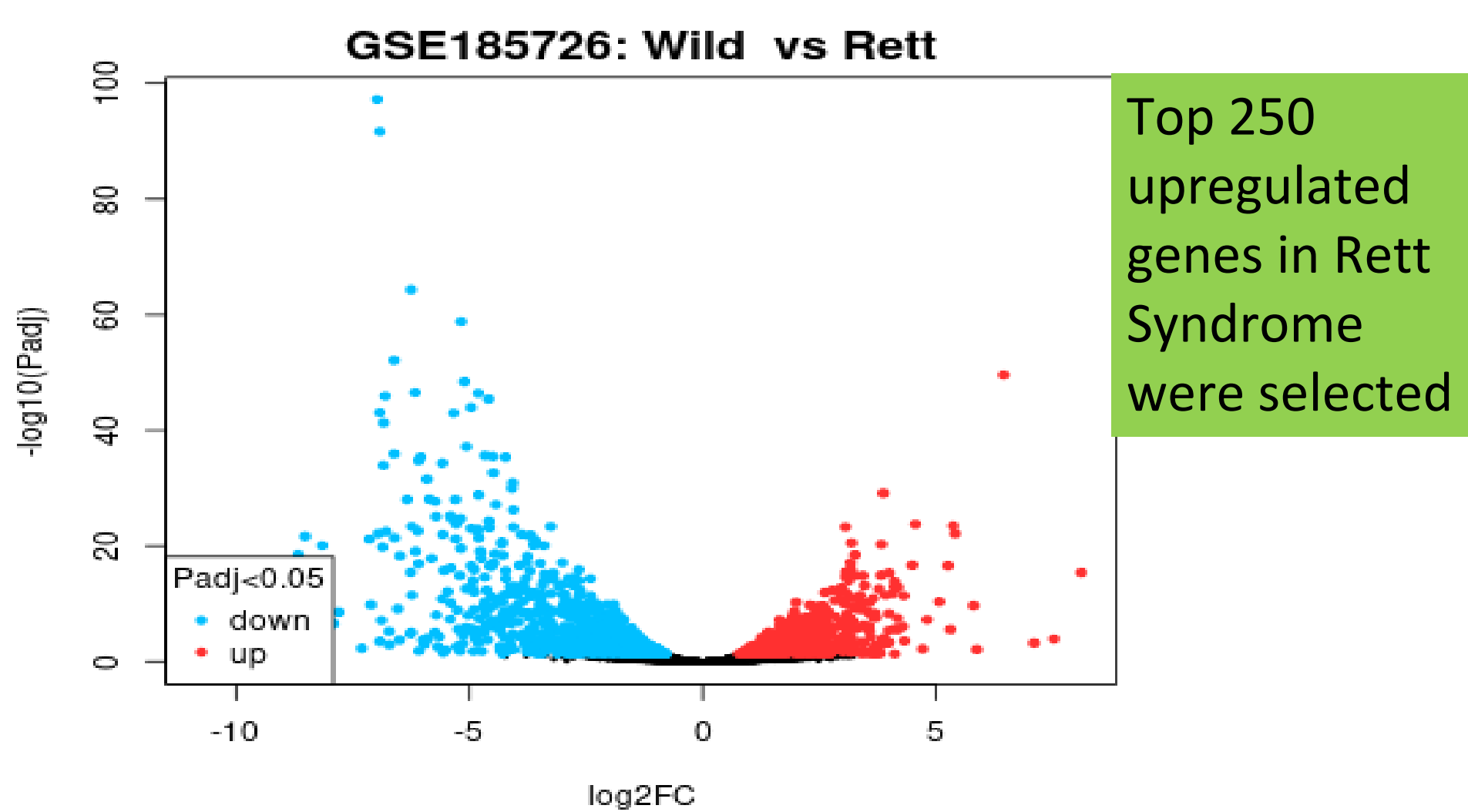
- Rett syndrome is caused by mutations in the X-linked gene MECP2.
- While MECP2 has been implicated in breast, colon, and prostate cancers, studies have reported that individuals with Rett Syndrome have a low risk of cancer.
- Reports suggest that MeCP2 exhibits increased expression levels in many human cancers, and its suppression results in reduced proliferation of cancerous cells.
- This study aims to use systematic computational approach to investigate the phenomenon and identify genes within Rett syndrome which may be protective against breast and colon cancers.

METHOD

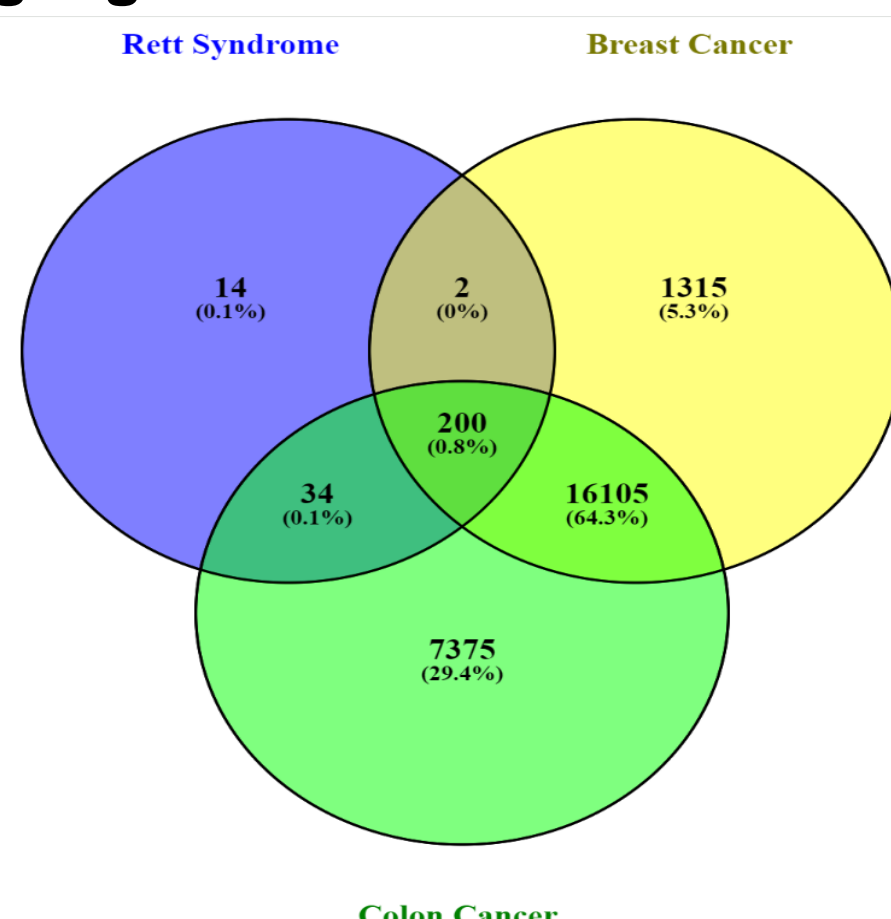


RESULTS & DISCUSSION

1. Differential gene expression of Rett Syndrome genes

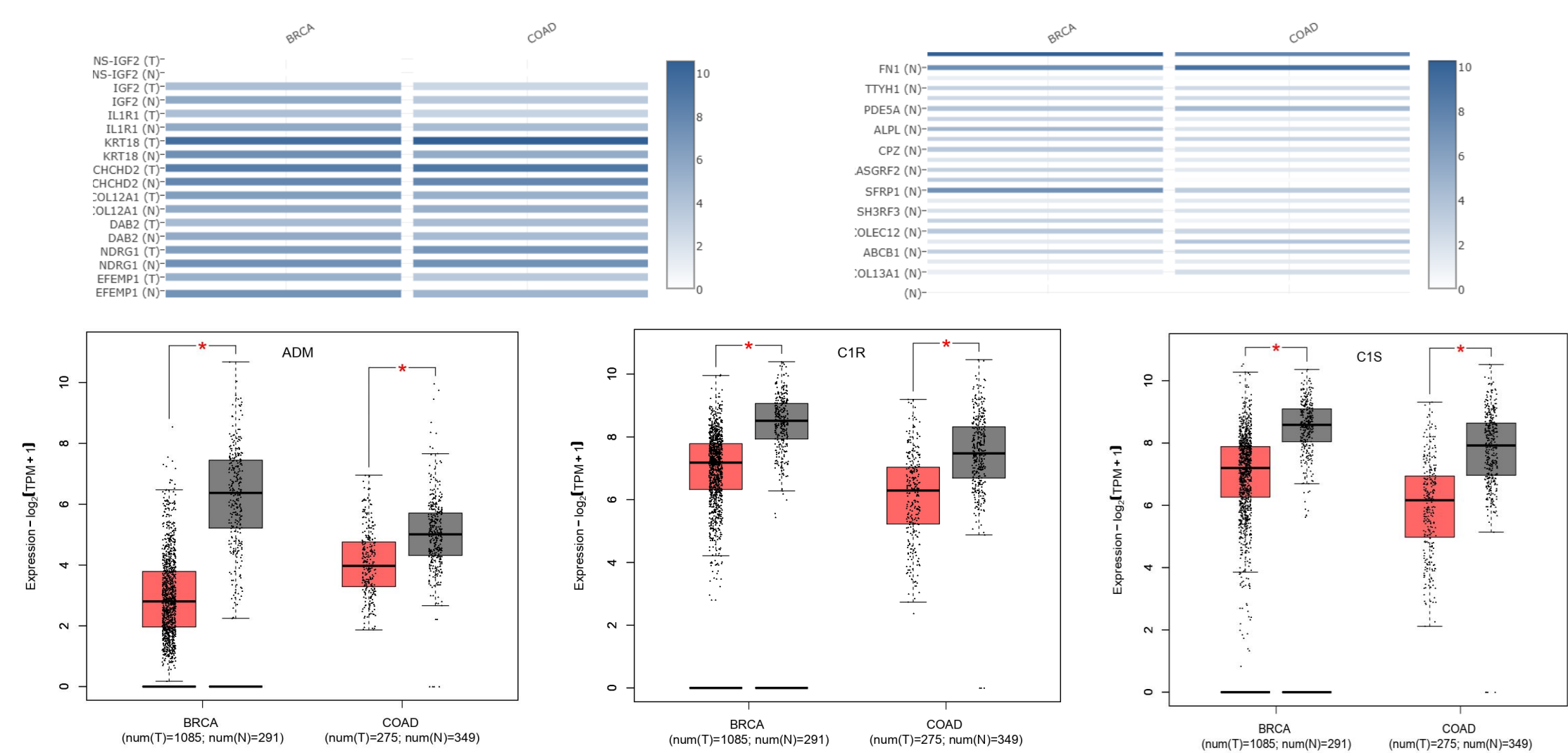


2. Common Target genes found in Breast and Colon Cancers

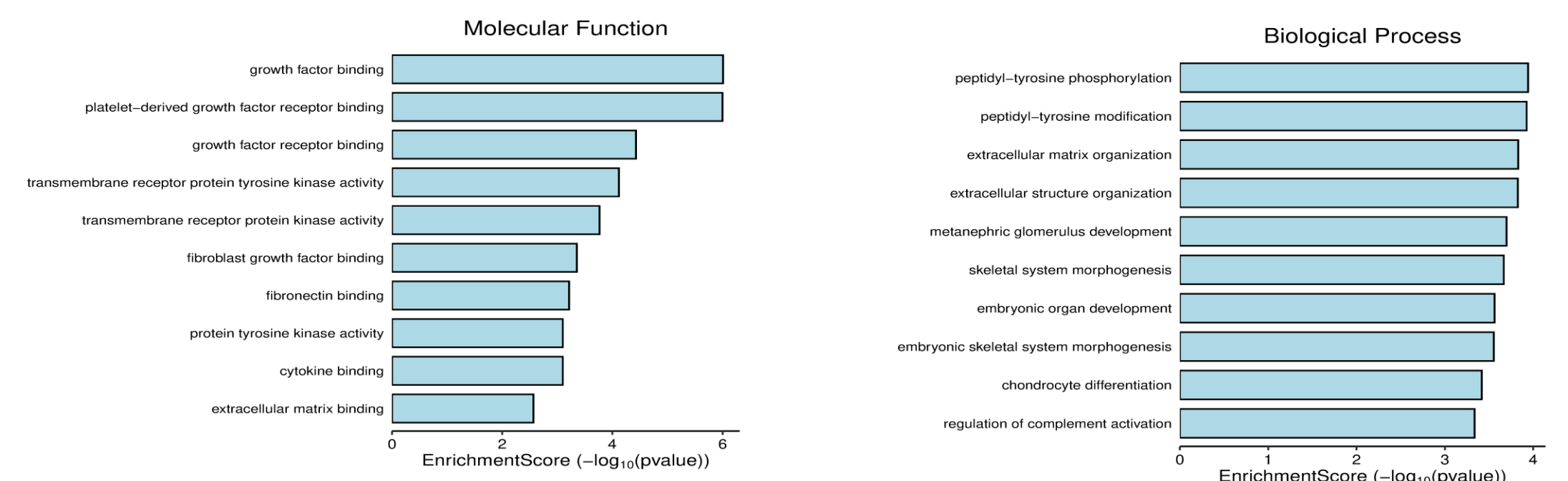


RESULTS & DISCUSSION

3. Analysis of gene Expression in Breast and Colon Cancer

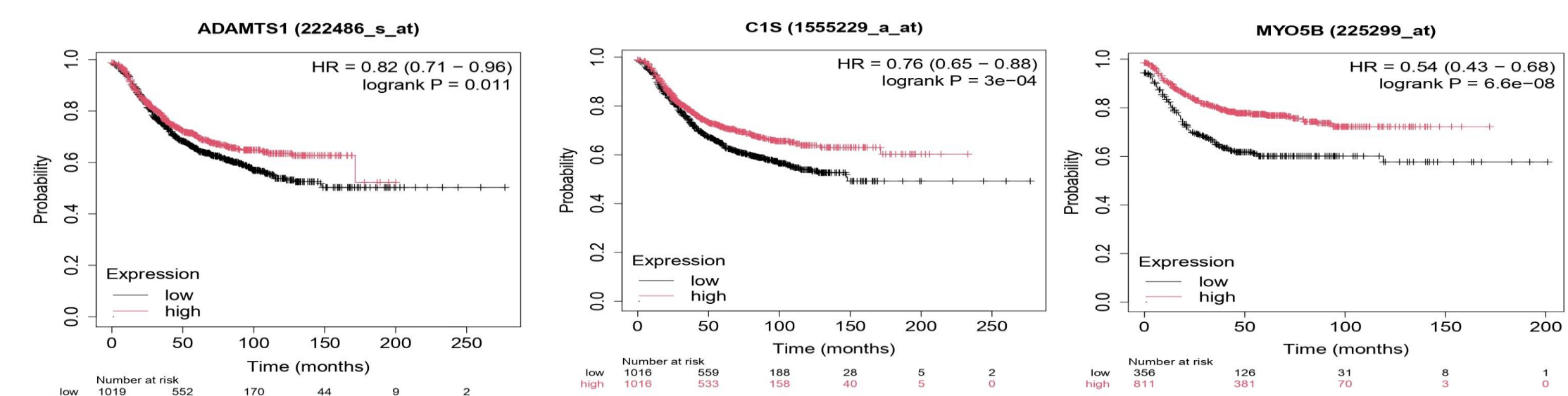


4. Functional Analysis

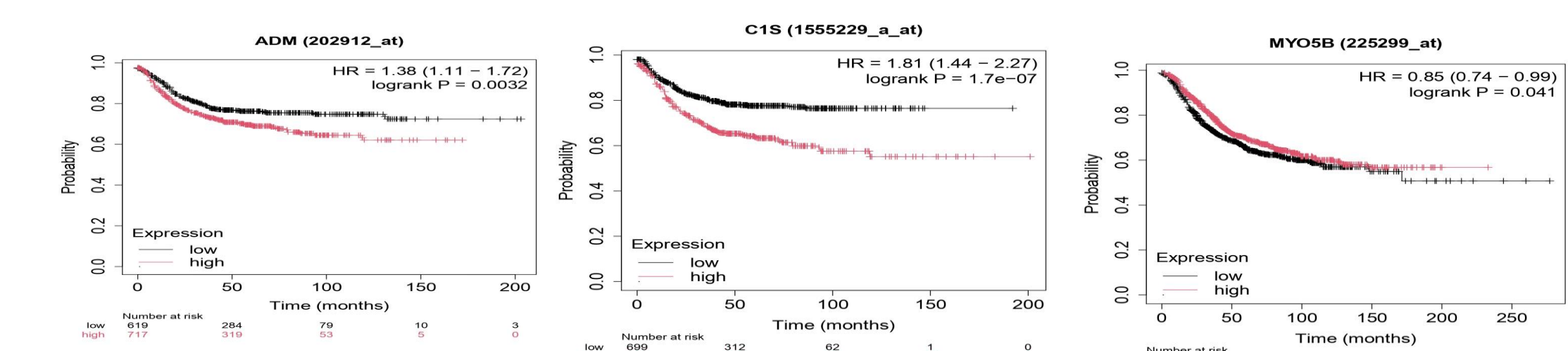


5. Survival Analysis

Breast Cancer



Colon Cancer



CONCLUSION/ FUTURE WORK

Our bioinformatics analysis has identified about 22 key genes that could play protective roles in breast and colon cancers, highlighting MECP2 as a significant factor. Further experimental works are required to establish the role of these genes in solid tumor suppression

REFERENCES

- Amir RE, Van den Veyver IB, Wan M, Tran CQ, Francke U, Zoghbi HY. Rett syndrome is caused by mutations in X-linked MECP2, encoding methyl-CpG-binding protein 2. *Nat Genet* 1999; **23**(2): 185-188.
- Pandey S, Pruitt K. Functional assessment of MeCP2 in Rett syndrome and cancers of breast, colon, and prostate. *Biochem Cell Biol.* 2017; **95**(3): 368-378.