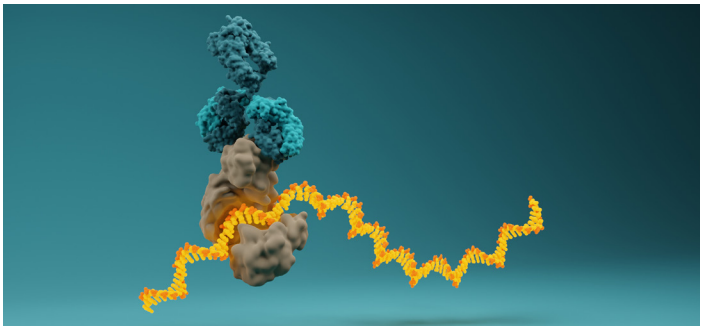
What are RNA-binding proteins?

Like the name suggests, RNA-binding proteins (RBPs) are proteins that bind to RNA. Over 1,500 RBPs have been identified and implicated in different aspects of RNA biology, including splicing, translation, stabilization, and localization.

Due to their key roles in RNA regulation, disruption of RBPs can lead to diseases, including neurodegenerative diseases, cardiovascular disease, and many types of cancer.

Learning more about RBPs can help researchers and drug developers better understand how RBPs influence biology and develop more effective therapies. By understanding how and where RBPs bind to and interact with RNA, therapeutic developers can work to make effective RNA drugs that target RBPs to help prevent or mitigate diseases.



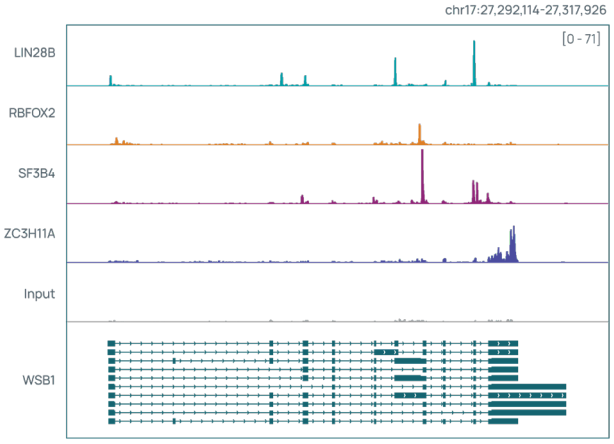
RBP-eCLIP at Eclipsebio

At Eclipsebio, we use our eCLIP technology to locate where and understand how RBPs bind to mRNA.

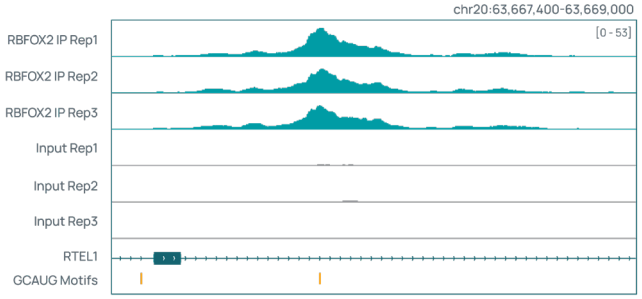
RBP-eCLIP locates where RBPs bind across the transcriptome, including in untranslated regions and non-coding RNAs. RBP-eCLIP also reveals how RBPs bind to RNA, identifying specific sequences where the proteins frequently bind called motifs.

These motifs can then be targeted with drugs such as antisense oligonucleotides (ASOs) to treat disease or added to mRNA therapies to drive cell type-specific expression.

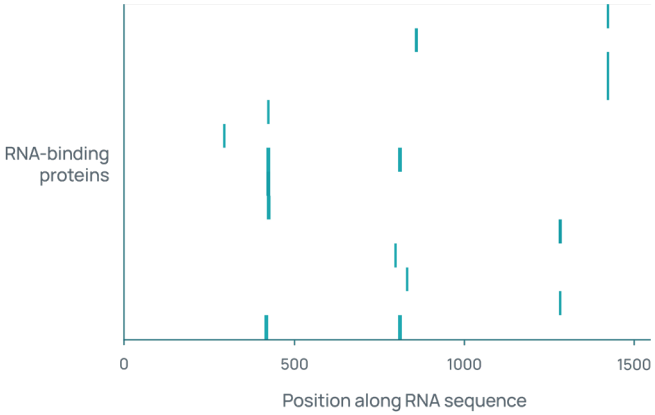
Interested in using RBP-eCLIP to learn more about how RBPs regulate your RNA? Reach out to us to get started.



RBP-eCLIP can locate where RBPs bind on RNA. These browser tracks show where RBPs bind on a WSB1 gene.



RBP-eCLIP can also identify RBP motifs. These peaks show RBFOX2 binding to RTEL1 on a GCAUG motif.



Eclipsebio has a database of RBP motifs in our eMERGE program that suggests regions of mRNA for RBP binding to therapeutic developers. In this heatmap, every tick mark represents a RBP motif along a RNA sequence.