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Large libraries

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The ability to select high-affinity, high-specificity [RNA-binding peptides](#) depends on the size and complexity of the peptide library. In the October 23 [Proceedings of the National Academy of Sciences](#), Jeffrey Barrick and researchers from the [California Institute for Technology](#) describe an *in vitro* selection approach to isolating peptides that bind to RNA tetraloops (*Proc Natl Acad Sci USA* 2001, **98**:12374-12378). They used the [mRNA-peptide fusion system](#) to construct libraries based on the RNA-binding domain of the N protein of bacteriophage λ . This peptide binds to the boxBR RNA hairpin with high affinity; they randomized positions in the N peptide to create libraries with as many as nine trillion sequences. They then carried out 12 rounds of selection *in vitro* and identified over 80 different peptides that selectively bind to the same RNA hairpin with high affinity (low nanomolar dissociation constants). When it comes to peptide libraries, its clear that the larger the better.

References

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