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A competitive binding assay for RNA ligand discovery

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Propositions
Accompanying the thesis

A competitive binding assay for RNA ligand discovery

1. RNA is more important than proteins.
2. Despite consisting only of four building blocks, RNA structures can be as complex as protein structures and can rival proteins in ligand affinity and selectivity.
3. RNA flexibility is not a bug, it's a feature – one that should be exploited for drug discovery.
4. Too little research is dedicated to off-target binding of ligands to DNA and RNA, which should be included in routine selectivity assessment.
5. The competitive binding assay is an essential addition to the RNA targeting toolbox.
Chapters 2, 3, 4, 5 and 6
6. Research on high-throughput screenings should not be published before hits are resynthesized and their activity confirmed.
Chapter 3
7. The art of high-throughput screenings constitutes crisis management and damage control.
Chapters 3, 4 and 5
8. The outcome of a high-throughput screening is limited by the quality of a compound library and the applicability of the library to the employed screening method.
Chapters 3, 4 and 5
9. SARS-CoV-2 antivirals will only work as prophylaxis or when administered at an early stage of infection.
Lamers & Haagmans (2022), Nat Rev Microbiol. 20(5), 270-284.
10. Academic research would be more successful and valuable if there was less pressure to perform or publish.
11. In a world where pandemic preparedness is lacking and pharmaceutical companies are prioritizing profits over health, drug development research from academia is essential.
12. Scientists bear responsibility for conspiracy theories concerning scientific subjects.