

Trana Discovery is an anti-infective drug discovery technology company that helps its partners find new classes of drugs for the treatment of bacterial, viral, and fungal infectious diseases. Our proprietary assays identify compounds that work through a unique mechanism of action: inhibition of the target pathogen's ability to use transfer RNA (tRNA) essential for propagation.



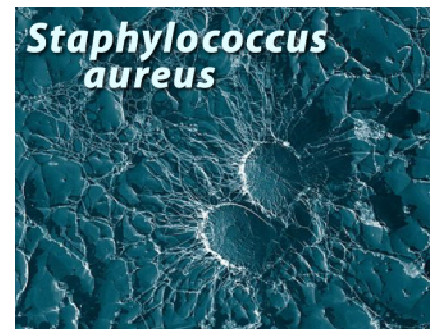
Trana Discovery Offers:

- New low-risk, low-cost means for drug discovery
- Novel technology exploits organism-specific transfer RNA
- Delivers drug candidates with a high certainty of effectiveness
- Licensing opportunities for exclusive rights to new drug classes

Trana *Staphylococcus aureus* 201 HTS Assay

The Trana *Staphylococcus aureus* 201 High-Throughput (HTS) Assay identifies compounds that inhibit the essential use of a non-human, *Staph aureus*-unique tRNA^{Arg} that is required for protein synthesis.

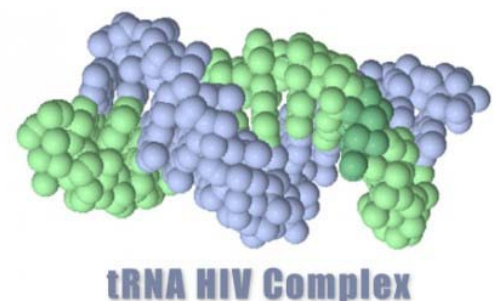
- Identifies inhibitors of tRNA required for protein synthesis
- Leads to new antibiotics for the treatment of *S. aureus*
- Fully optimized for high-throughput screening
- Available for immediate licensing¹



Trana HIV 201 HTS Assay

The Trana HIV 201 High-Throughput (HTS) Assay – designed to identify compounds that inhibit the use of tRNA by HIV – has the ability to select compounds with anti-HIV bioactivity.

- Ability to select anti-HIV bioactive compounds
- Screens up to 50,000 compounds per day
- Selected 76 bioactive hits from 300K+ compounds in NIAID study²
- Inhibition of tRNA accepted by HIV KOLs
- Novel MOA avoids current HIV resistance issues

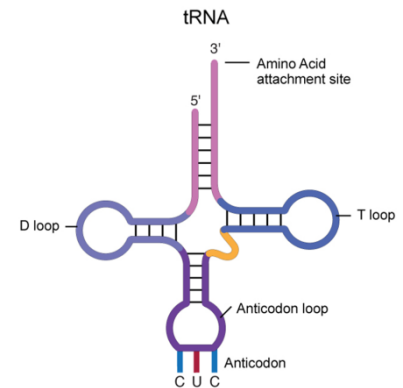


¹ Support for *S. aureus* assay from North Carolina Biotechnology Center through a SRL loan.

² Development of the HIV 201 HTS Assay was performed under the DAIDS, NIAID contract N01-AI-70042; Roger Miller, Project Officer.

The tRNA Mechanism

Scientists at North Carolina State University have long understood the crucial role of transfer RNA (tRNA). All organisms need tRNA for normal propagation. Inhibition of tRNA during RNA replication or blocking its recruitment during assembly should stop the replicative cycle, and the pathogen would not be able to survive. Founders of Trana Discovery helped characterize the structure of tRNA, particularly of the ultra-conserved region, the anti-codon stem loop (ASL), of this complex protein. If chemicals that bind to the ASL region could be identified, thereby inhibiting the action of tRNA, new drugs could be crafted for use in treating human and animal diseases.



Patented Technology

Trana Discovery technology exploits this conserved region of tRNA. As infectious organisms are selected as targets, a unique probe, based on a pre-determined sequence, is developed to mimic the chemical structures of the ASL. The probe is then employed in a high-throughput screening process to identify compounds that react with high affinity and inextricably bind to the ASL, indicating discovery of a molecule that possesses tRNA inhibitory activity specific to the target pathogen. By inhibiting the role of tRNA, propagation cannot proceed, thus stopping pathogen growth and spread of infection. Because each pathogen uses a unique combination of tRNA, a wide range of compounds with targeted anti-infective characteristics is possible.

*16 patents issued,
licensed and pending*

Scientific and Business Value

Scientists who employ Trana Discovery technology can stay on the forefront of scientific discovery and make significant scientific contributions in the fields of infectious disease and biochemistry. The Trana Discovery technology enables teams to discover new applications for existing drug compound libraries that they might have otherwise missed using traditional screening assays. Trana Discovery technology can help to increase success rates and expedite discovery of lead drug candidates by demonstrating, quantifying, and validating the mechanism of action. Organizations that use Trana Discovery technology can progress drugs to their development pipeline more efficiently.

For More Information

Trana Discovery is seeking partnerships with pharmaceutical companies and academic institutions that have compound libraries for application of the screening technology. Collaboration and licensing agreements for development and commercialization of discoveries are arranged on a case-by-case basis. Exclusive licensing arrangements may be available.

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