

## 'Ribo-T', first artificial ribosome, opens path to designer drugs

In a first, researchers have engineered a tethered ribosome – the protein-making “factory” within cells – that works nearly as well as its natural counterpart and may enable the production of new drugs and next-generation biomaterials.

The artificial ribosome, called Ribo-T, was created in the laboratories of Alexander Mankin, director of the University of Illinois at Chicago College of Pharmacy's Center for Biomolecular Sciences, and Northwestern University's Michael Jewett, assistant professor of chemical and biological engineering.

Ribo-T may be able to be tuned to produce unique and functional polymers for exploring ribosome functions or producing designer therapeutics – and perhaps one day even non-biological polymers.

“We felt like there was a small – very small – chance Ribo-T could work, but we did not really know,” Mankin said.

Mankin, Jewett and their colleagues were frustrated in their investigations by the ribosomes' subunits falling apart and coming together in every cycle of protein synthesis.

So the researchers devised a novel designer ribosome with tethered subunits – Ribo-T.

“What we were ultimately able to do was show that by creating an engineered ribosome where the ribosomal RNA is shared between the two subunits and linked by these small tethers, we could actually create a dual translation system,” Jewett said.

“It was surprising that our hybrid chimeric RNA could support assembly of a functional ribosome in the cell. It was also surprising that this tethered ribosome could support growth in the absence of wild-type ribosomes,” he said.

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Researchers design first artificial ribosome called 'Ribo-T'](#)**