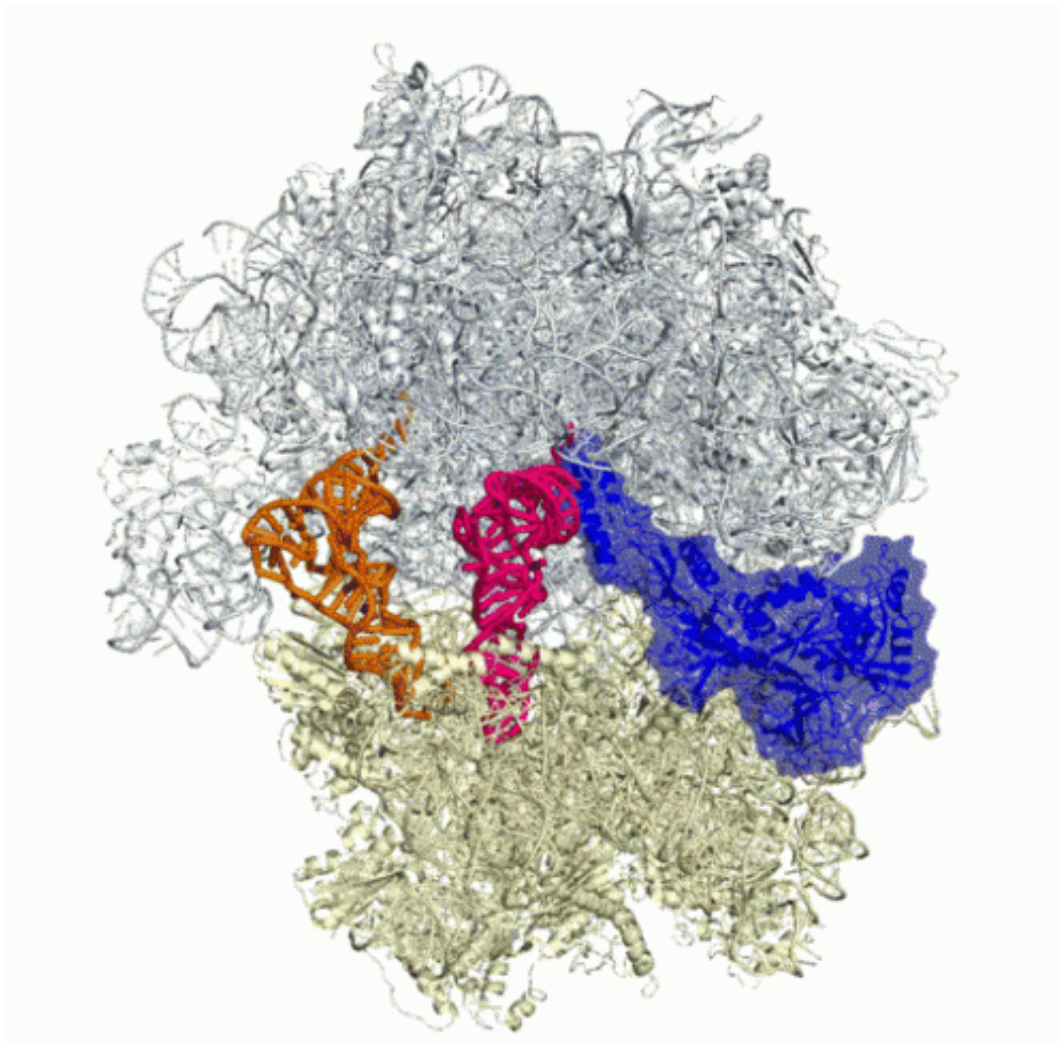


Key worker in protein synthesis factory revealed

August 8 2014, by Bill Hathaway



Credit: Yale University

In all living cells, DNA makes RNA and RNA makes proteins. The molecular factory that translates the information from RNA to proteins is called the "ribosome" (shown in the accompanying movie). It is a large and sophisticated entity, itself made of RNA and proteins.

Using a novel approach, Matthieu Gagnon and other Yale researchers in the lab of Nobel laureate Thomas Steitz in the Department of Molecular Biophysics and Biochemistry have described the crystal structure of the ribosome bound to a new [protein](#), called [elongation factor](#) 4 (shown in dark blue), that plays a crucial and heretofore unknown role in production of proteins, which are essential to all life.

The knowledge of the structure sheds new light on the intricate process of producing proteins and also paves the way to creation of more specifically designed drugs.

For more on the research, see the Aug. 8 issue of *Science*.

More information: Crystal structure of elongation factor 4 bound to a clockwise ratcheted ribosome, *Science* 8 August 2014: Vol. 345 no. 6197 pp. 684-687. [DOI: 10.1126/science.1253525](https://doi.org/10.1126/science.1253525)

Provided by Yale University

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