

List of publications

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1. SH Yi, V Petrychenko, JE Schliep, A Goyal, A Linden, A, A Chari, H Urlaub, H Stark, MV Rodnina, S Adio✉, N Fischer✉. "Conformational rearrangements upon start codon recognition in human 48S translation initiation complex." **Nucleic Acids Research** (2022), 50 (9), 5282 – 5298.
2. V Petrychenko, BZ Peng, AC de AP Schwarzer, F Peske, MV Rodnina✉, N Fischer✉. "Structural mechanism of GTPase-powered ribosome-tRNA movement." **Nature Communications** (2021), 12, 5933.
3. KM Yip, N Fischer, E Paknia, A Chari, H Stark✉. "Atomic resolution protein structure determination by cryo-EM." **Nature** (2020), 587 (7832), 157-161.
4. KH Chan, V Petrychenko, C Mueller, C Maracci, W Holtkamp, DN Wilson, N Fischer✉ & MV Rodnina✉. "Mechanism of ribosome rescue by alternative ribosome-rescue factor B." **Nature Communications** (2020), 11, 4106.
5. MV Rodnina✉, N Fischer, C Maracci, H Stark. "Ribosome dynamics during decoding." **Philosophical Transactions of the Royal Society B: Biological Sciences** 372 (2017), 372:20160182.
6. N Fischer✉, P Neumann, LV Bock, C Maracci, Z Wang, A Paleskava, AL Konevega, GF Schröder, H Grubmüller, R Ficner, MV Rodnina, H Stark✉. "The pathway to GTPase activation of elongation factor SelB on the ribosome." **Nature** (2016), 540 (7631), 80-85.
7. A Chari*✉, D Haselbach*, JM Kirves*, J Ohmer, E Paknia, N Fischer, O Ganichkin, V Möller, JJ Frye, G Petzold, M Jarvis, M Tietzel, C Grimm, JM Peters, BA Schulman, K Tittmann, J Markl, U Fischer, H Stark✉. "ProteoPlex: stability optimization of macromolecular complexes by sparse-matrix screening of chemical space." **Nature Methods** (2015), 12 (9), 859-865.
8. F Hauer*, C Gerle*✉, N Fischer*, A Oshima, K Shinzawa-Itoh, S Shimada, K Yokoyama, Y Fujiyoshi, H Stark✉. "GraDeR: membrane protein complex preparation for single-particle cryo-EM." **Structure** (2015), 23 (9), 1769-1775.
9. S Adio*, T Senyushkina*, F Peske, N Fischer, W Wintermeyer✉, MV Rodnina✉. "Fluctuations between multiple EF-G-induced chimeric tRNA states during translocation on the ribosome." **Nature Communications** (2015), 6 (1), 1-11.
10. N Fischer*✉, P Neumann*, AL Konevega, LV Bock, R Ficner, MV Rodnina, H Stark✉. "Structure of the *E. coli* ribosome-EF-Tu complex at <3 Å resolution by Cs-corrected cryo-EM." **Nature** (2015), 520, 567–570.
11. LV Bock*, C Blau*, GF Schröder✉, II Davydov, N Fischer, H Stark, MV Rodnina, AC Vaiana✉, H Grubmüller✉. "Energy barriers and driving forces in tRNA translocation through the ribosome". **Nature Structural and Molecular Biology** (2013), 20 (12), 1390.
12. W Wintermeyer, A Savelsbergh, AL Konevega, F Peske, VI Katunin, YP Semenov, N Fischer, H Stark, MV Rodnina. "Functions of elongation factor G in translocation and ribosome recycling." In: **Ribosomes** (2011), 329-338, Springer Vienna.
13. N Fischer, AL Konevega, W Wintermeyer, MV Rodnina, H Stark✉. "Ribosome dynamics and tRNA movement by time-resolved electron cryomicroscopy." **Nature** (2010), 466 (7304), 329-333.

14. B Kastner, N Fischer, MM Golas, B Sander, P Dube, D Boehringer, K Hartmuth, J Deckert, F Hauer, E Wolf, H Uchtenhagen, H Urlaub, F Herzog, JM Peters, D Poerschke, R Lührmann, H Stark[✉]. "GraFix: sample preparation for single-particle electron cryomicroscopy". **Nature Methods** (2008), 5 (1), 53-55.
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16. AL Konevega*, N Fischer*, YP Semenov, H Stark, W Wintermeyer[✉], MV Rodnina[✉]. "Spontaneous reverse movement of mRNA-bound tRNA through the ribosome." **Nature Structural and Molecular Biology** (2007), 14 (4), 318-324.
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