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Structural studies of the novel antibacterial target MraY and its interaction with the natural inhibitor compound tunicamycin

Gisela Brändén
University of Gothenburg, Sweden

The rapid increase of antibiotic resistance has created an urgent need to develop novel antibacterial drugs. I will describe the crystal structure of the promising bacterial target phospho-N-acetylmuramoyl–pentapeptide translocase (MraY) in complex with the nucleoside antibiotic tunicamycin. The structure reveals the mode of action of several related natural-product antibiotics and also gives an indication on the binding mode of the MraY UDP–MurNAc–pentapeptide and undecaprenyl-phosphate substrates. (Hakulinen et al. Nature Chemical Biology, 13:265-267, 2017)

gisela.branden@gu.se

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