KEMIJSKI INŠTITUT

Vabilo na Forum40 / Invitation to the Forum40

dr. Tina Fink

D12, Department of Synthetic Biology and Immunology

Četrtek / Thursday, 10.9. 2020 ob / at 13:00 on WEBEX

Meeting link: https://ki-si.webex.com/ki-si/j.php?MTID=m55196ba514ee63a7e9f14348f6f1fbef

Meeting number: 163 395 1841 / Password: september2020

Design of synthetic signaling pathway in mammalian cells

Cellular signal transduction is predominantly based on protein interactions and their posttranslational modifications, which enable a fast response to input signals. Due to difficulties in designing new unique protein–protein interactions, designed cellular logic has focused on transcriptional regulation; however, this has a substantially slower response. We present a de novo design of modular, scalable signaling pathways based on proteolysis and designed coiled-coils implemented in mammalian cells. A set of split proteases with highly specific orthogonal cleavage motifs were combined with strategically positioned cleavage sites and designed orthogonal coiled-coil dimerizing domains, enabling implementation of logic functions and signaling cascades in mammalian cells.

Vljudno vabljeni / Kindly invited