KEMIJSKI INŠTITUT

Vabilo na Forum40 / Invitation to the Forum40

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Četrtek / Thursday, 8.11.2018 ob / at 13:00

Velika predavalnica Kemijskega inštituta/ Great Lecture Hall, National Institute of Chemistry, Hajdrihova 19, Ljubljana

Structural insights into NLP binding to plant membranes

Necrosis and ethylene-inducing peptide 1 (Nep1)-like proteins (NLPs) are secreted by several phytopathogenic micro-organisms. They trigger leaf necrosis and immunity-associated responses in various dicotyledonous plants. We identified glycosylinositol phosphorylceramides (GIPC), a major class of plant sphingolipids, as target molecules for NLP binding to plasma membranes. X-ray crystallography revealed that NLP forms complexes with terminal hexose moieties. NLP binding to GIPC head groups induces several conformational changes within the toxin that precedes membrane attachment and host cell lysis. This study unveils early steps of NLP cytolysin action and explains why dicot plants are NLP toxin-sensitive whereas monocot plants are not.

Vljudno vabljeni / Kindly invited