Slovenian NMR Centre

@ National Institute of Chemistry

vabi na **PREDAVANJE**:

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z naslovom:

Structure and dynamics of intrinsically disordered regions of MAPK proteins

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v Veliki predavalnici na Kemijskem inštitutu, Hajdrihova 19, Ljubljana

Kratek povzetek:

The mitogen-activated protein kinases (MAPKs) are activated in response to growth factors and stress to coordinate diverse processes such as differentiation, inflammation and apoptosis. Signalling specificity in the MAPK pathways is controlled by intrinsically disordered regions of the MAPK kinases (MKKs) that specifically bind to their cognate MAPKs via linear docking motifs. Characterisation of the intrinsically disordered region of MKK7 by nuclear magnetic resonance (NMR) spectroscopoy reveals that this region contains a substantial amount of transient structure. The intrinsically disordered region of MKK7 contains three docking motifs and the ensemble description shows that all three of them display highly diverse conformational propensities in their unbound state. A combination of NMR exchange spectroscopy and X-ray crystallography provides evidence for a dynamic inter-conversion between distinct bound conformations in the MKK7-JNK complex. These observations provide unique insight into the role of conformational disorder in signalling.

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