

Structural Studies of Chromatin Remodellers

Christian Edlich

Cambridge University, UK

The dynamic states of chromatin are thought to be regulated to a large extent by the deposition of covalent post-translational modifications on histones and DNA. These in turn are added and removed continuously by so-called chromatin remodelling complexes, which contain both the ability to recognise a specific modification (or its absence) and the enzymatic activity to add or remove the same or a different modification.

We are investigating several proteins implicated in chromatin remodelling and/or histone chaperone activity. Using nuclear magnetic resonance (NMR) spectroscopy and small-angle neutron scattering (SANS) we have obtained a structural model of a potential novel histone deacetylase. Moreover, we have systematically investigated an array of multidomain constructs containing PHD and chromo domains from a number of potential or known chromatin remodellers.