

# ALBA Synchrotron used for first time as microscope to determine protein structure

April 10 2013

---



ALBA Synchrotron.

A team led by David Reverter, a researcher at the Institute of Biotechnology and Biomedicine (IBB) of the UAB, has determined for the first time the three-dimensional structure of a protein pair: LC8 and Nek9. Depending on whether or not they bind, Nek9 ensures that the chromosomes group and separate correctly during cell division.

By analysing the 3D structure, these scientists have discovered a new mechanism that interferes with the [protein binding](#) and therefore also contributes to the correct regulation of cell division and other cell processes. The discovery could have implications for the study of diseases related to cell division processes, like cancer.

The 3D structure, published in the *Journal of Biological Chemistry*, was obtained from data collected by the XALOC [beamline](#) of the ALBA Synchrotron. It is the first time that the crystal structure of a protein has been obtained by using this synchrotron and published in a scientific journal.

**More information:** Gallego, P. et al. Structural analysis of the regulation of the DYNLL/LC8 binding to Nek9 by phosphorylation, *Journal of Biological Chemistry*. March 12, 2013, [doi: 10.1074/jbc.M113.459149](#)

Provided by Universitat Autònoma de Barcelona

Citation: ALBA Synchrotron used for first time as microscope to determine protein structure (2013, April 10) retrieved 26 March 2023 from <https://phys.org/news/2013-04-alba-synchrotron-microscope-protein.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.