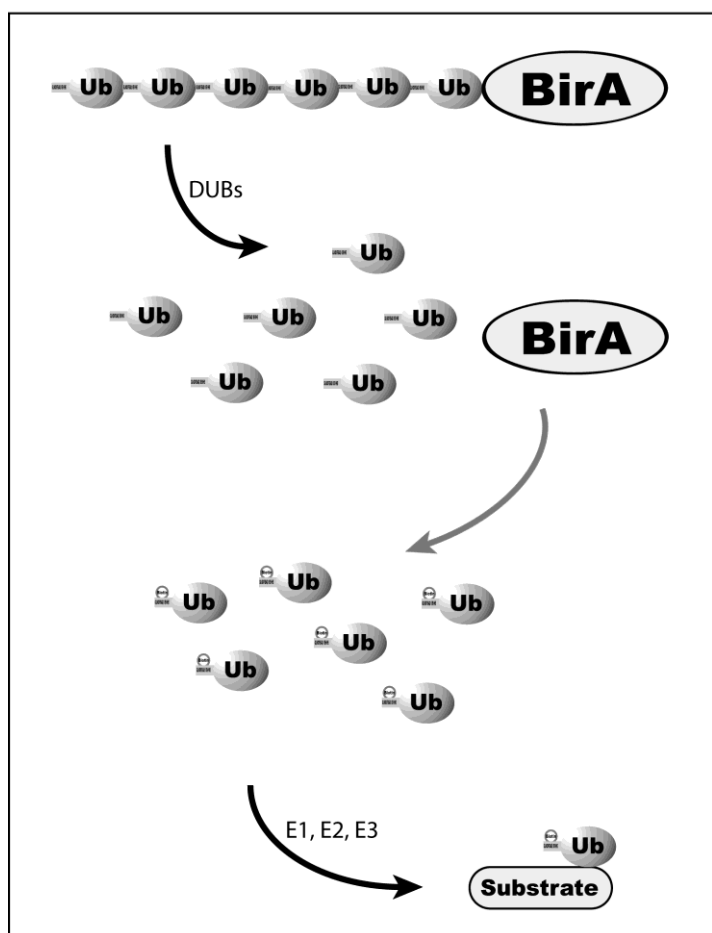


A novel strategy to isolate ubiquitin conjugates reveals wide role of ubiquitination during neural development.

Ubiquitination of neuronal proteins is an essential regulatory mechanism of brain function. Its failure is associated with a number of neurodegenerative conditions, including Parkinson's and Alzheimer's diseases. However, isolation of neuronal ubiquitin conjugates from living organisms has proven to be difficult. Using the fruit fly model organism, researchers from CIC bioGUNE have been able to identify for the first time the proteins that are ubiquitinated within neurons *in vivo* under physiological conditions. MS results obtained in collaboration with researchers from Emory University (Atlanta, US) were validated by western blotting, to confirm that those proteins were indeed ubiquitinated in the *Drosophila* embryonic nervous system, and to elucidate whether they were mono- or poly-ubiquitinated. Identifying endogenously ubiquitinated proteins in specific cell types, at specific developmental stages, and within the context of a living organism will allow understanding how the tissue-specific function of those proteins is regulated by the ubiquitin system.



<http://www.mcponline.org/content/early/2010/09/22/mcp.M110.002188.abstract>

<http://www.ncbi.nlm.nih.gov/pubmed/20861518>