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2008 : November 2008 - New Hot Papers : Walter Neupert & Johannes M. Hermann

NEW HOT PAPERS - 2008

November 2008



Walter Neupert & Johannes M. Hermann talk with *ScienceWatch.com* and answer a few questions about this month's New Hot Paper in the field of Biology & Biochemistry. The authors have also sent along images of their work.



Article Title: Translocation of proteins into mitochondria

Authors: Neupert, W;Herrmann, JM

Journal: ANNU REV BIOCHEM

Volume: 76

Issue:

Page: :723-749

Year: 2007

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SW: Why do you think your paper is highly cited?

The functionality of cells relies on the correct delivery of each newly synthesized polypeptide to its respective cellular location. The processes by which mitochondrial precursor proteins are recognized in the cytosol and transported across the mitochondrial membranes are one of the best-studied examples for such protein translocation processes.

Over the last years a number of novel components of the mitochondrial import machinery were identified and functionally characterized. This provided fascinating insights into the mechanisms by which mitochondrial precursor proteins are transported into mitochondria and sorted into their respective mitochondrial subcompartment. This review article provides a general but detailed overview over the mitochondrial import machinery and its function.



Coauthor

Johannes Herrmann

SW: Does it describe a new discovery, methodology, or synthesis of knowledge?

Initially, mitochondria were seen as rather autonomous organelles which simply provide the cell with ATP. Over the last years it became more and more apparent that mitochondria exhibit a number of additional functions which are critical for many cellular processes. One example is the central role of mitochondrial proteins in **apoptosis**.

Figure 1; [View](#) details

Moreover, mitochondrial dysfunctions were found to be associated with many human diseases, in particular with neuropathies like **Parkinson's**

