

Publication

A luminal flavoprotein in endoplasmic reticulum-associated degradation

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 97730

Author(s) Riemer, Jan; Appenzeller-Herzog, Christian; Johansson, Linda; Bodenmiller, Bernd; Hartmann-Petersen, Rasmus; Ellgaard, Lars

Author(s) at UniBasel [Appenzeller-Herzog, Christian](#) ;

Year 2009

Title A luminal flavoprotein in endoplasmic reticulum-associated degradation

Journal Proceedings of the National Academy of Sciences of the United States of America

Volume 106

Number 35

Pages / Article-Number 14831-6

Keywords ERdj5, OS-9, SEL1L, ERFAD, ERAD

The quality control system of the endoplasmic reticulum (ER) discriminates between native and non-native proteins. The latter are degraded by the ER-associated degradation (ERAD) pathway. Whereas many cytosolic and membrane components of this system are known, only few luminal players have been identified. In this study, we characterize ERFAD (ER flavoprotein associated with degradation), an ER luminal flavoprotein that functions in ERAD. Upon knockdown of ERFAD, the degradation of the ERAD model substrate ribophorin 332 is delayed, and the overall level of polyubiquitinated cellular proteins is decreased. We also identify the ERAD components SEL1L, OS-9 and ERdj5, a known reductase of ERAD substrates, as interaction partners of ERFAD. Our data show that ERFAD facilitates the dislocation of certain ERAD substrates to the cytosol, and we discuss the findings in relation to a potential redox function of the protein.

Publisher National Academy of Sciences

ISSN/ISBN 0027-8424

edoc-URL <http://edoc.unibas.ch/dok/A5251913>

Full Text on edoc Available;

Digital Object Identifier DOI 10.1073/pnas.0900742106

PubMed ID <http://www.ncbi.nlm.nih.gov/pubmed/19706418>

ISI-Number WOS:000269481000020

Document type (ISI) Journal Article