Title: Yeast peroxisomes: how are they formed and how do they grow?

Authors: Arman Akşit, Ida J. van der Klei

PII: S1357-2725(18)30210-3
DOI: https://doi.org/10.1016/j.biocel.2018.09.019
Reference: BC 5429

To appear in: *The International Journal of Biochemistry & Cell Biology*

Received date: 22-6-2018
Revised date: 24-9-2018
Accepted date: 25-9-2018

Please cite this article as: Akşit A, Klei IJvd, Yeast peroxisomes: how are they formed and how do they grow?, *International Journal of Biochemistry and Cell Biology* (2018), https://doi.org/10.1016/j.biocel.2018.09.019

Yeast peroxisomes: how are they formed and how do they grow?

Arman Akşit and Ida J. van der Klei*

Molecular Cell Biology, Groningen Biomolecular Sciences and Biotechnology Institute, University of Groningen, the Netherlands.

* Corresponding author: PO Box 11103, 9300 CC Groningen, The Netherlands, Phone: + 31 50 3632179, E-mail: I.J.van.der.klei@rug.nl

Abstract

Peroxisomes are single membrane enclosed cell organelles, which are present in almost all eukaryotic cells. In addition to the common peroxisomal pathways such as ß-oxidation of fatty acids and decomposition of H_2O_2, these organelles fulfil a range of metabolic and non-metabolic functions. Peroxisomes are very important since various human disorders exist that are caused by a defect in peroxisome function.

Here we describe our current knowledge on the molecular mechanisms of peroxisome biogenesis in yeast, including peroxisomal protein sorting, organelle dynamics and peroxisomal membrane contact sites.

Keywords: peroxisomes, peroxisome biogenesis, yeast, contact sites

1. Introduction

Eukaryotic cells are characterized by the presence of a nucleus and organelles. One class of cell organelles is the peroxisomes, single membrane-bound structures that can harbor a large variety of enzymes. ß-oxidation of fatty acids and detoxification of H_2O_2 are typical