

## **Getting to know the neighbours: Using BioID to identify new players in peroxisome regulation.**

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Peroxisomes are metabolic organelles that are necessary to maintain cellular redox homeostasis and are required in both anabolic and catabolic lipid reactions. Loss of peroxisome numbers or function have been implicated in diseases ranging from neurodegenerative disorders to cancer and infections. While advances have been made in improving our understanding of how peroxisomes are formed and degraded, the mechanism that regulate these pathways is not clear. To identify new players in peroxisome maintenance, we carried out a series of proximity-dependent biotinylation- mass spectrometry assays, called BioID, to map out protein interaction profiles of 35 peroxisomal membrane proteins. The interactome is enriched in previously known proteins involved in peroxisome maintenance. However, a large number of proteins are those found in other organelles such as the ER, Golgi and mitochondria. Mining this rich data set, we describe novel genes that are implicated in peroxisome biogenesis and turnover, and uncover the importance of communication between different organelles.