Pink1 is cleaved on healthy mitochondria

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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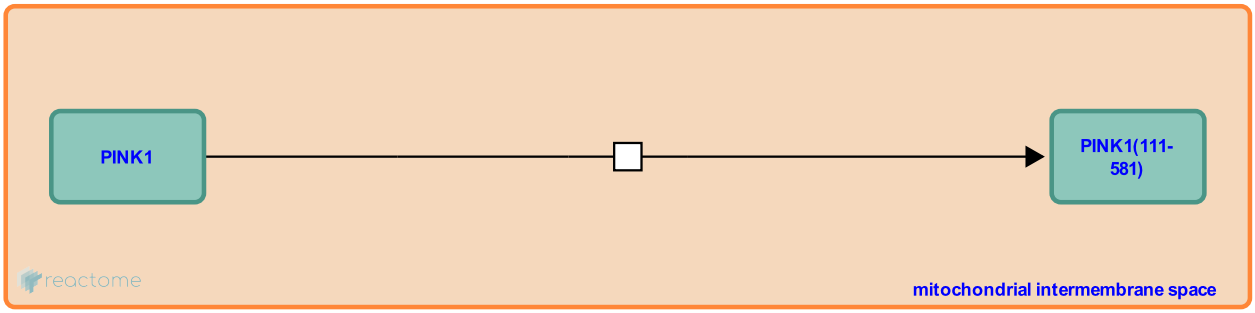
Stable identifier: R-HSA-5205681

Type: transition

Compartments: mitochondrial intermembrane space



Full-length PINK1 (63 kDa), which is in the inner mitochondrial space, is proteolytically cleaved into a 52-kDa cytosolic fragment (111 - 581) that is released back into the cytoplasm by an unknown mechanism and degraded by the proteasome. Cleavage of PINK1 into an unstable cytosolic form maintains low levels of PINK1 on healthy mitochondria in order to suppress the PINK1/Parkin pathway in the absence of mitochondrial damage. At present, not all of the proteases mediating the cleavage of PINK1 in mammalian cells have been identified.

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Editions

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