

Substrate:LAMP2a binds HSP90

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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

Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)

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Reactome database release: 88

This document contains 1 reaction ([see Table of Contents](#))

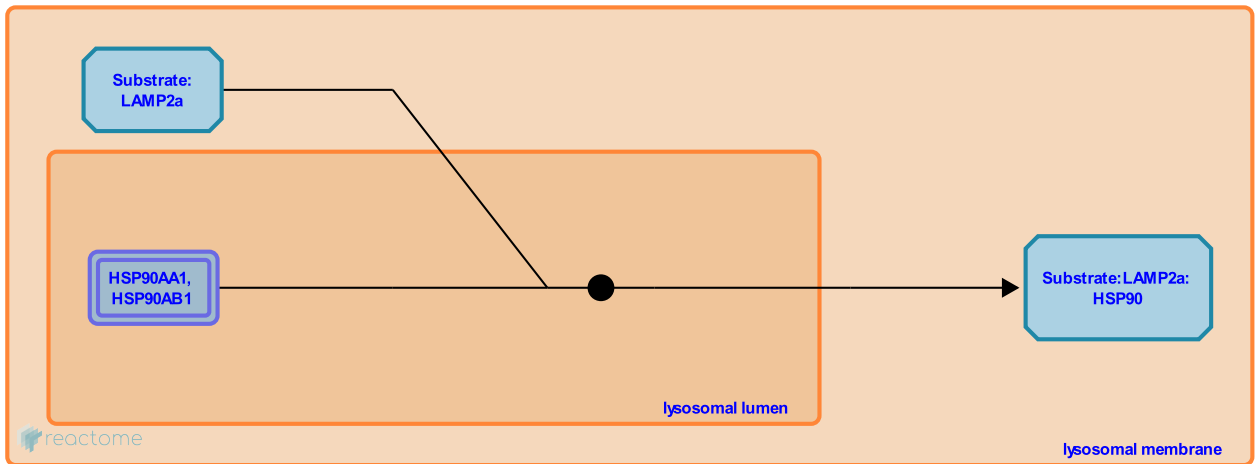
Substrate:LAMP2a binds HSP90 [↗](#)

Stable identifier: R-HSA-9622831

Type: binding

Compartments: lysosomal lumen, lysosomal membrane

Inferred from: [Substrate:Lamp2a binds Hsp90 \(Rattus norvegicus\)](#)



Heat shock cognate 71 kDa protein (HSPA8) translocates substrates from cytosol to lysosomal membrane where it binds to Lysosome-associated membrane glycoprotein 2 (LAMP2a). HSPA8 is then released from this complex. Subsequently, Heat shock protein HSP 90 binds to the lysosomal luminal end of LAMP2a (Bandyopadhyay U et al. 2008). This facilitates the multimerization of LAMP2a and internalization of substrate into the lumen. Experiments confirming this binding were performed on rat models.

Literature references

Cuervo, AM., Kaushik, S., Bandyopadhyay, U., Varticovski, L. (2008). The chaperone-mediated autophagy receptor organizes in dynamic protein complexes at the lysosomal membrane. *Mol. Cell. Biol.*, 28, 5747-63. [↗](#)

Cuervo, AM., Kaushik, S. (2018). The coming of age of chaperone-mediated autophagy. *Nat. Rev. Mol. Cell Biol.*, 19, 365-381. [↗](#)

Editions

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