

IgG binds LPG1G2 in the amastigote form of Leishmania

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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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Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)

Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)

Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 88

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

IgG binds LPG1G2 in the amastigote form of Leishmania ↗

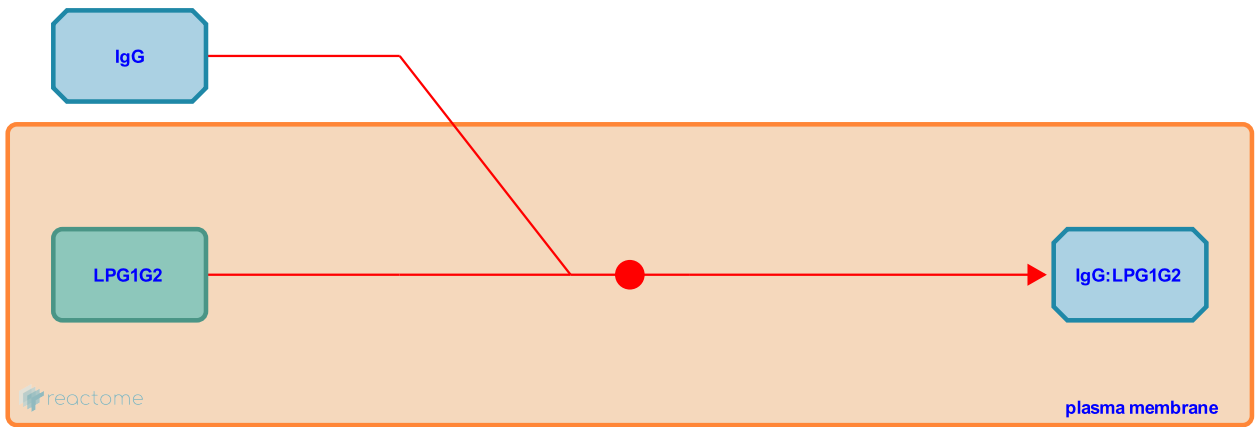
Stable identifier: R-HSA-9664397

Type: binding

Compartment: extracellular region, plasma membrane

Diseases: cutaneous leishmaniasis

Inferred from: [Mouse IgG binds LPG1G2 in the amastigote form of Leishmania \(Mus musculus\)](#)



The internalization of Leishmania amastigotes by macrophages is thought to be mediated mainly through opsonization with immunoglobulins (Igs) which bind FcγRs, stimulating the uptake (Morehead et al 2002 & Padigel et al. 2005). Glycoinositol phospholipids (GIPLs) are the most abundant glycolipids on the surface of the amastigote form of Leishmania parasites and Buxbaum and colleagues showed that IgG1 in mice, binds the GIPL molecules on the amastigote stage of L. mexicana to subsequently induced the phagocytosis through FcγRs (Buxbaum 2013).

Literature references

Morehead, J., Coppens, I., Andrews, NW. (2002). Opsonization modulates Rac-1 activation during cell entry by Leishmania amazonensis. *Infect. Immun.*, 70, 4571-80. ↗

Buxbaum, LU. (2013). Leishmania mexicana infection induces IgG to parasite surface glycoinositol phospholipids that can induce IL-10 in mice and humans. *PLoS Negl Trop Dis*, 7, e2224. ↗

Padigel, UM., Farrell, JP. (2005). Control of infection with Leishmania major in susceptible BALB/c mice lacking the common gamma-chain for FcR is associated with reduced production of IL-10 and TGF-beta by parasitized cells. *J. Immunol.*, 174, 6340-5. ↗

Editions

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