

# Opsonized leishmania amastigote binds

## FCGR3

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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. [↗](#)
- 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](#))

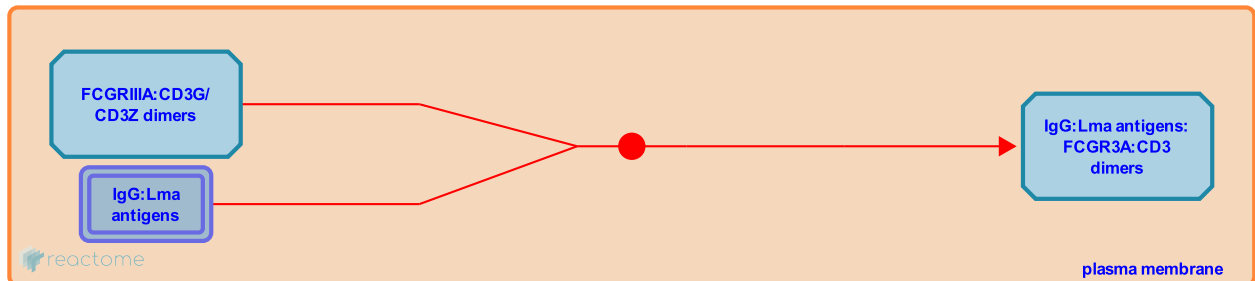
## Opsonized leishmania amastigote binds FCGR3 [↗](#)

**Stable identifier:** R-HSA-9664268

**Type:** binding

**Compartments:** plasma membrane

**Diseases:** cutaneous leishmaniasis



Leishmania amastigotes parasites opsonized by IgG are more susceptible to be phagocytosed through FcγRs. Nevertheless, besides the phagocytosis induction, the interaction IgG-FcγRs has been implicated in the synthesis induction, of several cytokines (Buxbaum 2013; Chu et al. 2010; Thomas and Buxbaum 2008). In particular, Buxbaum et al. in 2008 showed that IgGs bound glycoinositol phospholipids (GIPLs) of *L. Mexicana* and that IgG:GIPLs induces the synthesis of IL-10 through FcγRIII.

### Literature references

- Thomas, BN., Buxbaum, LU. (2008). FcγRIII mediates immunoglobulin G-induced interleukin-10 and is required for chronic *Leishmania mexicana* lesions. *Infect. Immun.*, 76, 623-31. [↗](#)
- 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. [↗](#)
- Thomas, BN., Chu, N., Patel, SR., Buxbaum, LU. (2010). IgG1 is pathogenic in *Leishmania mexicana* infection. *J. Immunol.*, 185, 6939-46. [↗](#)

### Editions

2020-01-07	Authored, Edited	Jassal, B.
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