

MyD88 interacts with the activated TLR receptor 7, 8 or 9

Gillespie, ME., Shamovsky, V.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

The contents of this document may be freely copied and distributed in any media, provided the authors, plus the institutions, are credited, as stated under the terms of [Creative Commons Attribution 4.0 International \(CC BY 4.0\) License](#). For more information see our [license](#).

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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

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: 81

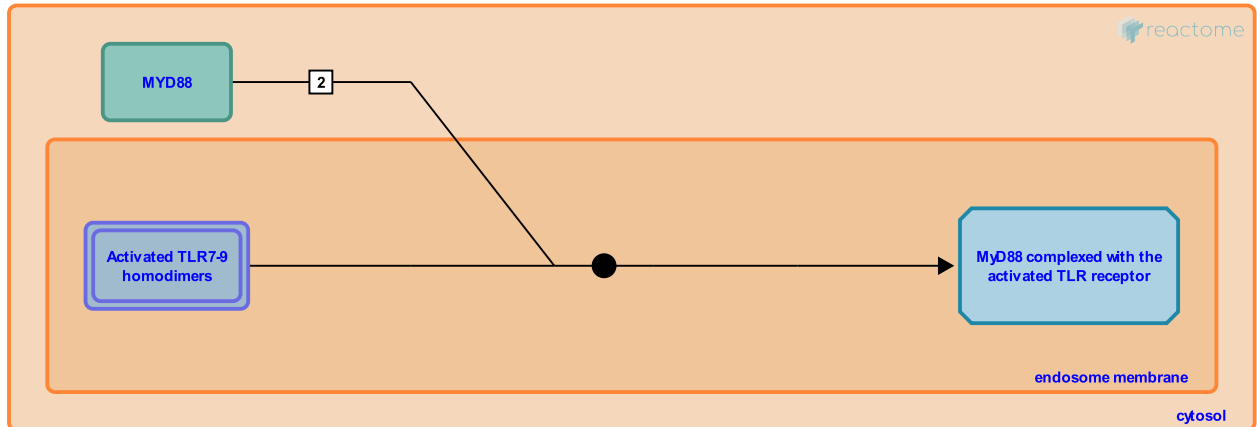
This document contains 1 reaction ([see Table of Contents](#))

MyD88 interacts with the activated TLR receptor 7, 8 or 9 [↗](#)

Stable identifier: R-HSA-975175

Type: binding

Compartments: endosome membrane, cytosol



MyD88 binds to IRAK (IL-1 receptor-associated kinase) and the receptor heterocomplex (the signaling complex) and thereby mediates the association of IRAK with the receptor. MyD88 therefore couples a serine/threonine protein kinase to the receptor complex.

Literature references

- Henzel, WJ., Wesche, H., Li, S., Cao, Z., Shillinglaw, W. (1997). MyD88: an adapter that recruits IRAK to the IL-1 receptor complex. *Immunity*, 7, 837-47. [↗](#)
- Kawai, T., Takeuchi, O., Inoue, J., Matsuda, M., Terai, K., Ishii, KJ. et al. (2004). Interferon-alpha induction through Toll-like receptors involves a direct interaction of IRF7 with MyD88 and TRAF6. *Nat Immunol*, 5, 1061-8. [↗](#)
- Barton, GM., Horng, T., Medzhitov, R., Flavell, RA. (2002). The adaptor molecule TIRAP provides signalling specificity for Toll-like receptors. *Nature*, 420, 329-33. [↗](#)
- Yeh, WC., Shimada, N., Ohba, Y., Mizutani, T., Yanai, H., Suzuki, N. et al. (2004). Role of a transductional-transcriptional processor complex involving MyD88 and IRF-7 in Toll-like receptor signaling. *Proc Natl Acad Sci U S A*, 101, 15416-21. [↗](#)

Editions

2010-08-25	Authored	Shamovsky, V.
2010-10-29	Reviewed	Gillespie, ME.
2010-11-15	Edited	Shamovsky, V.