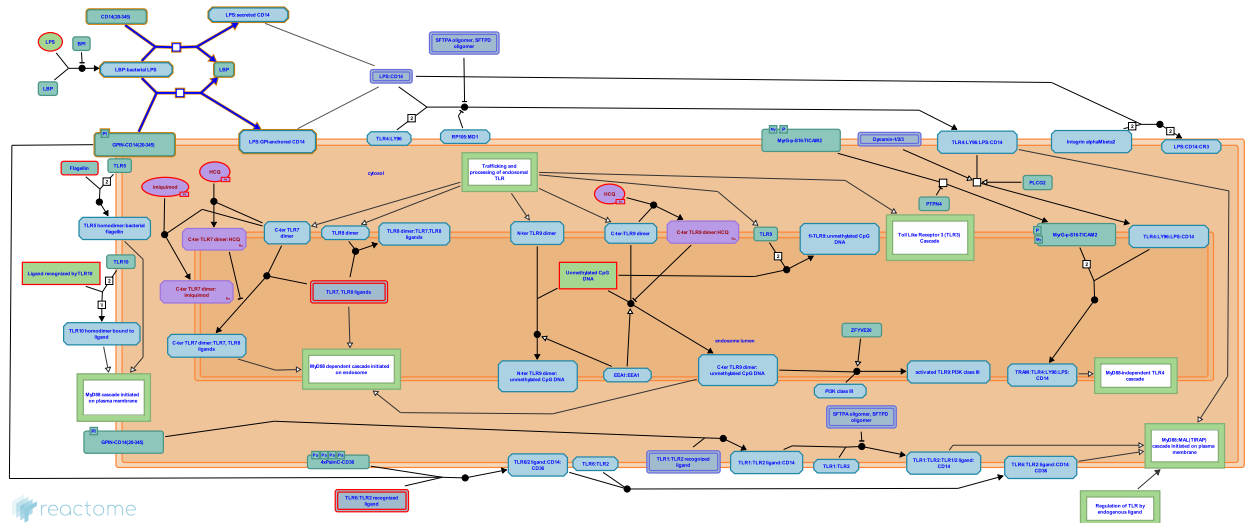


Transfer of LPS from LBP carrier to CD14



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This is just an excerpt of a full-length report for this pathway. To access the complete report, please download it at the [Reactome Textbook](https://reactome.org/textbook/).

28/04/2024

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. [↗](#)

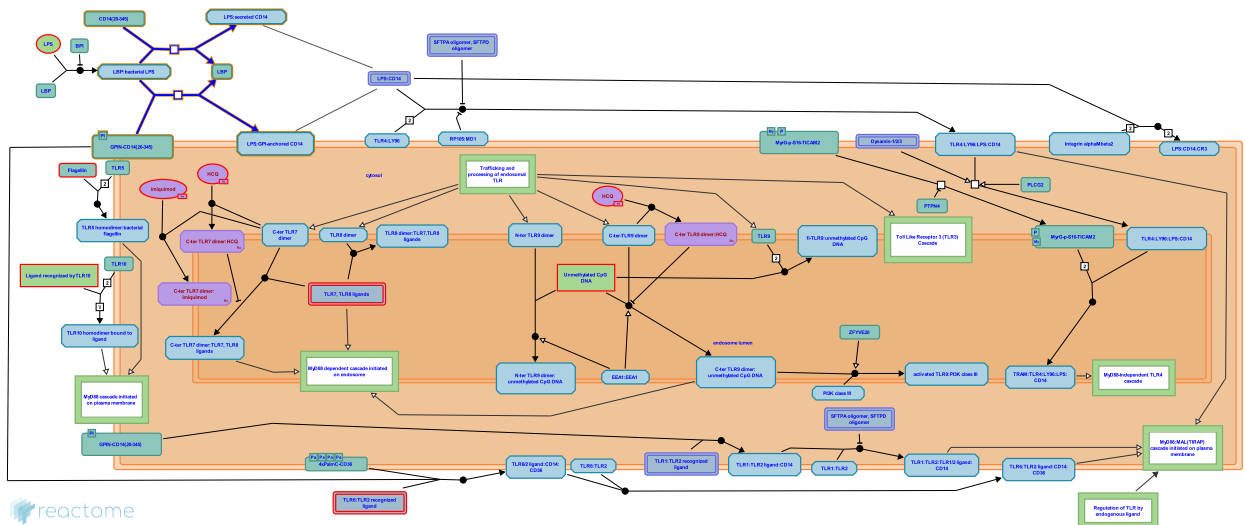
Reactome database release: 88

This document contains 1 pathway and 2 reactions ([see Table of Contents](#))

Transfer of LPS from LBP carrier to CD14 ↗

Stable identifier: R-HSA-166020

Compartments: extracellular region, plasma membrane



LBP delivers LPS from bacteria (or bacterial membrane fragments) to CD14 on the surfaces of phagocytes, where it is recognised by the MD2:TLR4 complex . Thus, LBP is an opsonin and CD14 is an opsonic receptor for complexes of LPS (or LPS-containing particles such as bacteria) and LBP. CD14 exists as two isoforms. CD14 can be either secreted into the extracellular compartment, or it can be anchored to the plasma membrane via its GPI module.

Literature references

Fenton, MJ., Golenbock, DT. (1998). LPS-binding proteins and receptors. *J Leukoc Biol*, 64, 25-32. ↗

Editions

2005-08-16	Authored, Edited	de Bono, B.
2006-04-24	Reviewed	Gay, NJ.
2010-11-30	Reviewed	Gillespie, ME.
2012-11-13	Reviewed	Zanoni, I., Granucci, F.

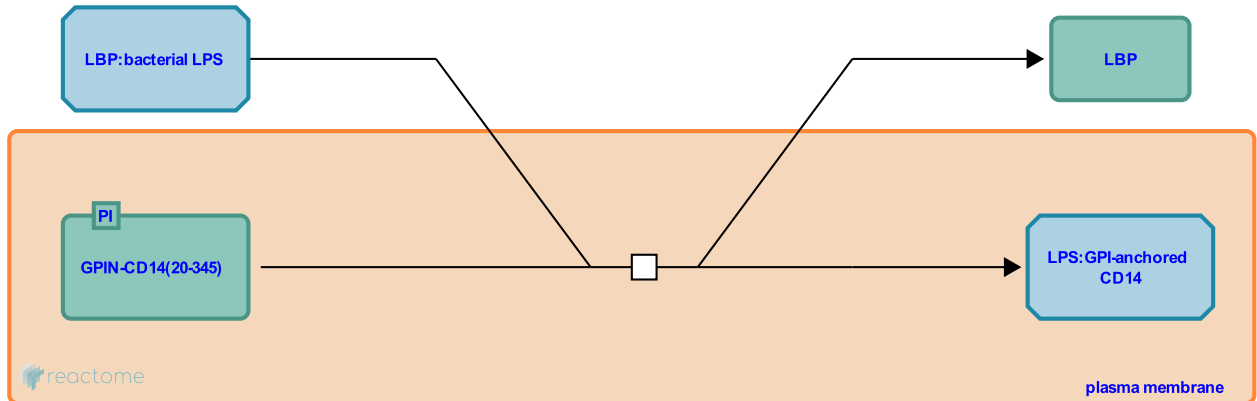
GPI-bound CD14 binds LPS ↗

Location: [Transfer of LPS from LBP carrier to CD14](#)

Stable identifier: R-HSA-166038

Type: transition

Compartments: plasma membrane, extracellular region



At the beginning of this reaction, 1 molecule of 'GPI-anchored form of CD14', and 1 molecule of 'LBP complexed with bacterial LPS' are present. At the end of this reaction, 1 molecule of 'LPS complexed with GPI-anchored CD14', and 1 molecule of 'LBP' are present.

Literature references

Fenton, MJ., Golenbock, DT. (1998). LPS-binding proteins and receptors. *J Leukoc Biol*, 64, 25-32. ↗

Editions

2005-08-16	Authored	de Bono, B.
2006-04-24	Reviewed	Gay, NJ.
2010-11-15	Edited	Shamovsky, V.
2010-11-30	Reviewed	Gillespie, ME.
2012-11-13	Reviewed	Zanoni, I., Granucci, F.

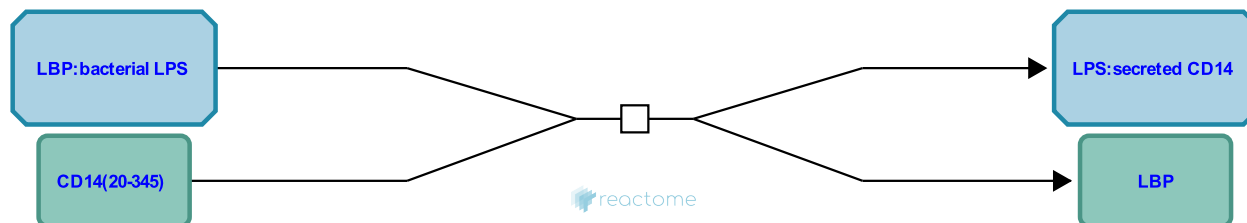
Secreted CD14 binds LPS [↗](#)

Location: [Transfer of LPS from LBP carrier to CD14](#)

Stable identifier: R-HSA-169719

Type: transition

Compartments: extracellular region



At the beginning of this reaction, 1 molecule of 'Secreted form of CD14', and 1 molecule of 'LBP complexed with bacterial LPS' are present. At the end of this reaction, 1 molecule of 'LBP', and 1 molecule of 'LPS complexed with secreted CD14' are present.

Literature references

Fenton, MJ., Golenbock, DT. (1998). LPS-binding proteins and receptors. *J Leukoc Biol*, 64, 25-32. [↗](#)

Editions

2005-08-16	Authored	de Bono, B.
2006-04-24	Reviewed	Gay, NJ.
2010-11-15	Edited	Shamovsky, V.
2010-11-30	Reviewed	Gillespie, ME.
2012-11-13	Reviewed	Zanoni, I., Granucci, F.

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