

oxPL binds CD14

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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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Reactome database release: 88

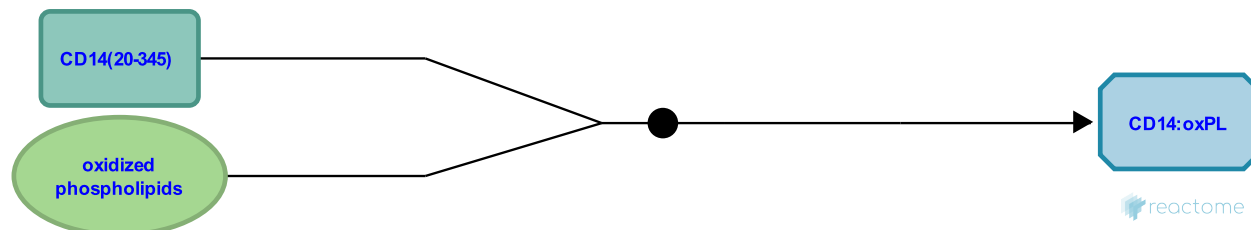
This document contains 1 reaction ([see Table of Contents](#))

oxPL binds CD14 [↗](#)

Stable identifier: R-HSA-8869694

Type: binding

Compartments: extracellular region



The generation of reactive oxygen species is a central feature of inflammation that results in the oxidation of host phospholipids. Endogenously formed oxidized phospholipids, such as 1-palmitoyl-2-arachidonyl-sn-glycero-3-phosphorylcholine (OxPAPC), have been shown to inhibit TLR4- & TLR2-mediated signaling induced by bacterial lipopeptide or lipopolysaccharide (LPS) in various human cells (Bochkov VN et al., 2002; von Schlieffen E et al., 2009). Oxidized phospholipids were found to bind LPS binding protein (LBP) and soluble CD14 suggesting that the binding prevented recognition of LPS by these proteins thus preventing recognition of LPS and activation of TLR4 (Erridge C et al., 2008; von Schlieffen E et al., 2009). In addition, oxPAPC protected mice treated with a lethal dose of LPS (Bochkov VN et al., 2002). Thus, oxidized phospholipids may function as a negative feedback to blunt innate immune responses.

Literature references

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Editions

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