# PRODUCT INFORMATION

## oxLig-1 (technical grade)

*Item No. 40740*

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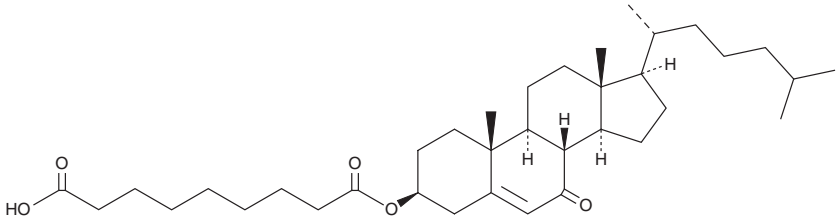
| **CAS Registry No.:** | 352523-18-3 |
| **Formal Name:** | 3β-[(8-carboxy-1-oxooctyl)oxy]-cholest-5-en-7-one |
| **Synonym:** | 7-Ketocholesteryl-9-carboxynonanoate |
| **MF:** | $C_{36}H_{58}O_5$ |
| **FW:** | 570.8 |
| **Purity:** | ≥80% |
| **Supplied as:** | A solid |
| **Storage:** | -20°C |
| **Stability:** | ≥2 years |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

oxLig-1 (technical grade) is supplied as a solid. A stock solution may be made by dissolving the oxLig-1 (technical grade) in the solvent of choice, which should be purged with an inert gas. oxLig-1 (technical grade) is slightly soluble (0.1-1 mg/ml) in DMSO.

### Description

oxLig-1 is an ω-carboxylated 7-ketocholesteryl ester and a lipid component of oxidized LDL (oxLDL).[1] It binds to the ligand-binding domain of peroxisome proliferator-activated receptor γ (PPARγ), an effect that can be reversed by the PPARγ agonist troglitazone (Item No. 71750), and also binds to CD36, also known as scavenger receptor B2, when used at a concentration of 50 µg/ml.[2,3] oxLig-1 (20 µg/ml) increases cholesterol efflux and protein levels of liver X receptor α (LXRα) and ATP-binding cassette transporter 1 subfamily A (ABCA1) in THP-1 macrophages. Liposomes containing oxLig-1 and complexed with apolipoprotein H, also known as $\beta_2$-glycoprotein I ($\beta_2$-GPI), bind to an anti-apolipoprotein H antibody, which mediates uptake by J774A.1 macrophages.[1] oxLig-1 decreases intracellular lipid accumulation induced by oleic acid (Item Nos. 90260 | 24659) in HepG2 cells, as well as hepatic lipid accumulation in mice fed a high-fat diet.[3] Serum levels of IgG autoantibodies targeting a complex of oxLig-1 and apolipoprotein H are increased in patients with antiphospholipid syndrome with a history of arterial thrombosis.[4]

### References


1. Kobayashi, K., Matsuura, E., Liu, Q., *et al.* A specific ligand for β2-glycoprotein I mediates autoantibody-dependent uptake of oxidized low density lipoprotein by macrophages. *J. Lipid Res.* **42(5)**, 697-709 (2001).
2. Chi, Y., Wang, L., Liu, Y., *et al.* 7-ketocholesteryl-9-carboxynonanoate enhances ATP binding cassette transporter A1 expression mediated by PPARγ in THP-1 macrophages. *Atherosclerosis* **234(2)**, 461-468 (2014).
3. Fu, C., Xiang, M.-L., Chen, S., *et al.* Molecular drug simulation and experimental validation of the CD36 receptor competitively binding to long-chain fatty acids by 7-ketocholesteryl-9-carboxynonanoate. *ACS Omega* **8(31)**, 28277-28289 (2023).
4. Lopez, D., Kobayashi, K., Merrill, J.T., *et al.* IgG autoantibodies against β2-glycoprotein I complexed with a lipid ligand derived from oxidized low-density lipoprotein are associated with arterial thrombosis in antiphospholipid syndrome. *Clin. Dev. Immunol.* **10(2-4)**, 203-211 (2003).





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