

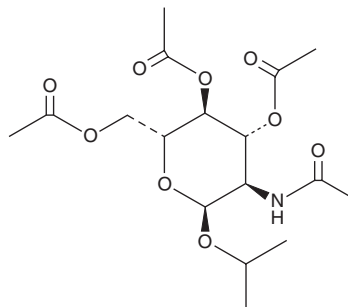
PRODUCT INFORMATION



TLR4-C34

Item No. 18512

CAS Registry No.: 40592-88-9
Formal Name: 1-methylethyl 2-(acetylamino)-2-deoxy- α -D-glucopyranoside, 3,4,6-triacetate
Synonyms: C34, TLR4-IN-C34, Toll-Like Receptor 4-C34
MF: $C_{17}H_{27}NO_9$
FW: 389.4
Purity: $\geq 98\%$
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years



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

Laboratory Procedures

TLR4-C34 is supplied as a crystalline solid. A stock solution may be made by dissolving the TLR4-C34 in the solvent of choice, which should be purged with an inert gas. TLR4-C34 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of TLR4-C34 in ethanol and DMF is approximately 50 mg/ml and approximately 25 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of TLR4-C34 can be prepared by directly dissolving the TLR4-C34 in aqueous buffers. The solubility of TLR4-C34 in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Toll-like receptor 4 (TLR4) is activated by lipopolysaccharide (LPS), with LPS-binding protein, to initiate an innate immune response, which typically includes increased expression of TNF α .¹ TLR4-C34 is a 2-acetamidopyranoside that inhibits TLR4 signaling in enterocytes and macrophages *in vitro* when used at 10 μM .^{2,3} It does not affect signaling through either TLR2 or TLR9. TLR4-C34, used at 1 mg/kg *in vivo*, also reduces systemic inflammation in mouse models of endotoxemia and necrotizing enterocolitis.² It markedly decreases the basal expression of TNF α , as well as LPS-induced iNOS and TNF α expression, in intestinal tissue isolated from patients with necrotizing enterocolitis.²

References

1. Morris, M.C., Gilliam, E.A., and Li, L. Innate immune programming by endotoxin and its pathological consequences. *Front. Immunol.* **5:680** (2015).
2. Neal, M.D., Jia, H., Eyer, B., *et al.* Discovery and validation of a new class of small molecule toll-like receptor 4 (TLR4) inhibitors. *PLoS One* **8(6)**, e65779 (2013).
3. Wipf, P., Eyer, B.R., Yamaguchi, Y., *et al.* Synthesis of anti-inflammatory α - and β -linked acetamidopyranosides as inhibitors of toll-like receptor 4 (TLR4). *Tetrahedron Lett.* **56(23)**, 3097-3100 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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