

Validation data for C₁₄-Tri-LAN-Gly

<http://www.invivogen.com/c14-tri-lan-gly>

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Version # 17L14-NJ

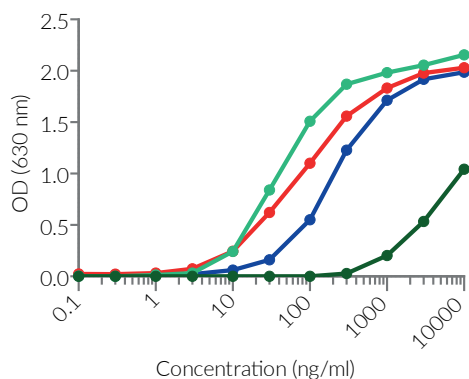
NOD1 is a pattern recognition receptor that senses Gram⁻ bacterial peptidoglycan (PGN), and more specifically the minimal motif γ -glutamyl-meso-diaminopimelic acid (iE-DAP). Synthetic agonists of NOD1 have been developed in various ways to enhance their potency and intracellular delivery: NOD1 preferentially detects tri-DAP peptides with a N-terminal lipophilic chain.

InvivoGen has developed C₁₄-Tri-LAN-Gly which contains meso-lanthionine instead of the meso-DAP moiety, a myristic lipophilic chain, and three peptides (Ala, Glu, Gly). Meso-lanthionine is a diamino-type amino acid specific to PGN of some Gram⁻ bacteria such as *Fusobacterium nucleatum*. C₁₄-Tri-LAN-Gly offers the advantage of being a single diastereoisomer, as opposed to other synthetic NOD1 agonists which are a mixture of L and D isomers.

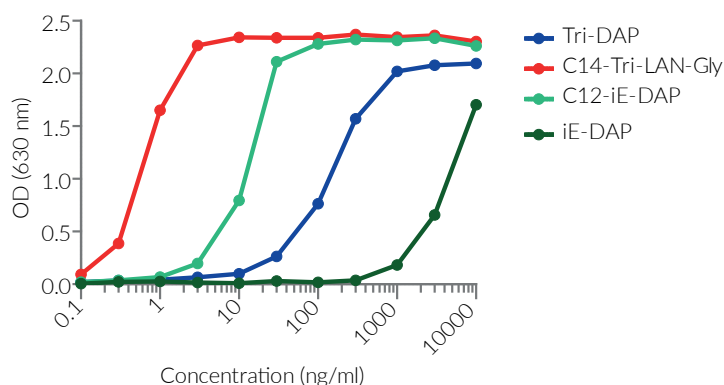
Stimulation of HEK-Blue™ hNOD1 and HEK-Blue™ mNOD1 reporter cells with C₁₄-Tri-LAN-Gly induces the activation of the NF- κ B signaling pathway. While it activates both human and murine NOD1, it is the agonist of choice for murine NOD1 as it exhibits a ~10-fold better potency than the C12-iE-DAP and a ~100-fold better potency than tri-DAP.

NF- κ B induction (SEAP reporter) by C₁₄-Tri-LAN-Gly in HEK-Blue NOD1 reporter cells

a. HEK-Blue™ hNOD1



b. HEK-Blue™ mNOD1



Dose responses of HEK-Blue™ hNOD1 (panel a) and HEK-Blue™ mNOD1 (panel b) reporter cells stimulated with 0.1 ng/ml to 10 μ g/ml of NOD1 agonists: iE-DAP (dark green), C12-iE-DAP (light green), Tri-DAP (blue) and C₁₄-Tri-LAN-Gly (red). After overnight incubation, the NF- κ B response was determined using QUANTI-Blue™, a SEAP detection reagent, and by reading the optical density (OD) at 630 nm.

TECHNICAL SUPPORT

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