Validation data for ADP-L-Heptose

https://www.invivogen.com/adp-heptose

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InvivoGen has synthesized and purified ADP-L-Heptose, an intermediary sugar in the biosynthesis of lipopolysaccharide (LPS), an essential component of the outer mebrane of Gram-negative bacteria. It is generated by a multi-step biosynthesis pathway, in which the final step is the interconversion between two isomers, ADP-D-glycero-β-D-manno-heptose (ADP-Heptose) and ADP-**L**-glycero-β-D-manno-heptose (ADP-L-Heptose). Both the D- and L- isomers activate the ALPK1-TIFA signaling cascade and induce a pro-inflamamtory NF-κB-dependent response **(Figure 1)**.

Functional validation of ADP-L-Heptose

Induction of InvivoGen's HEK-Blue™ Null1-v cells, which express a NF-κB-inducible secreted embryonic alkaline phosphatase (SEAP), with either ADP-Heptose (D- isomer) or ADP-L-Heptose (L- isomer) results in comparable dose-dependent responses.

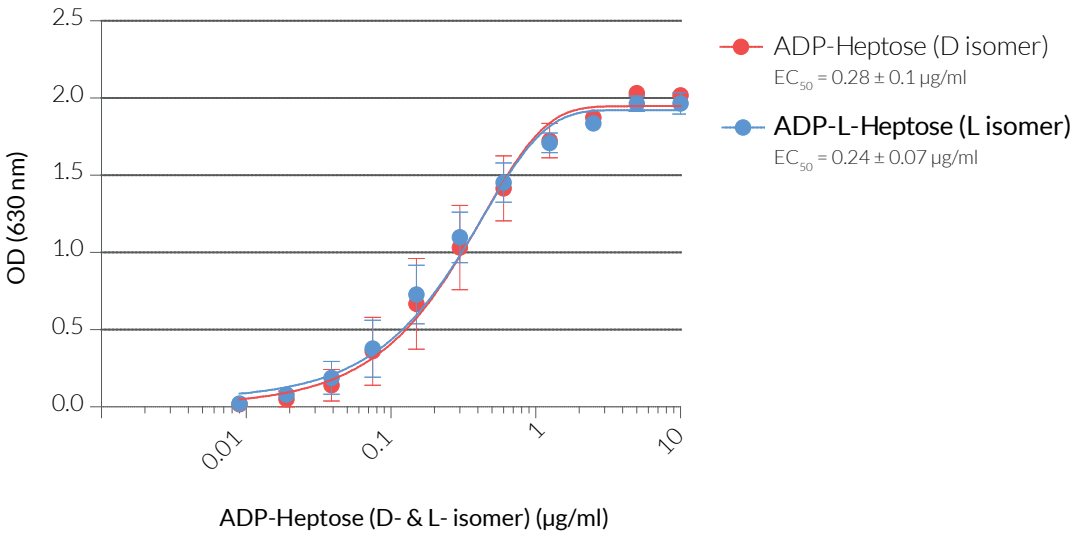

Figure 1: ADP-L-Heptose induced NF-κB response. HEK-Blue™ Null1-v were incubated with increasing concentrations of ADP-Heptose or ADP-L-Heptose (0 - 10 µg/ml). After overnight incubation, the NF-κB response was assessed by measuring the activity of SEAP in the supernatant using QUANTI-Blue™ Solution, a SEAP detection reagent. Data are presented as optical density (OD) at 630 nm (mean ± SEM). EC_{50} value is indicated (± std error).

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