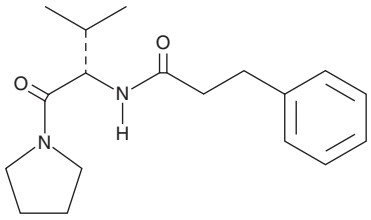
PRODUCT INFORMATION

IL-1R Antagonist

Item No. 21349

CAS Registry No.:	566914-00-9
Formal Name:	N-[(1S)-2-methyl-1-(1-pyrrolidinylcarbonyl)propyl]-benzenepropanamide
MF:	$C_{18}H_{26}N_2O_2$
FW:	302.4
Purity:	≥98%
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

IL-1R antagonist is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of IL-1R antagonist in these solvents is approximately 10 mg/ml.

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. If an organic solvent-free solution of IL-1R antagonist is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of IL-1R antagonist in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

IL-1R antagonist is a peptide mimic of the myeloid differentiation primary response gene 88 (MyD88) that changes the interaction of MyD88 and IL-1 receptor type I (IL-1RI).[1] In mouse lymphocytes and thymoma EL4 cells, IL-1R antagonist (≥10 µM) inhibits IL-1β-activated phosphorylation of p38 MAP kinase, a process specifically mediated by disruption of IL-1RI/MyD88. However, it has no influence on LPS-mediated TLR4/MyD88 signaling in freshly isolated mouse lymphocytes (100 µM). IL-1R antagonist also attenuates IL-1β-induced fever (200 mg/kg) and Staphylococcal enterotoxin B (SEB)-induced pro-inflammatory cytokine production and toxicity in mice at doses between 2-6 mg.[1,2]

References

1. Bartfai, T., Behrens, M.M., Gaidarova, S., *et al.* A low molecular weight mimic of the Toll/IL-1 receptor/resistance domain inhibits IL-1 receptor-mediated responses. *Proc. Natl. Acad. Sci. USA* **100(13)**, 7971-7976 (2003).
2. Kissner, T.L., Moisan, L., Mann, E., *et al.* A small molecule that mimics the BB-loop in the Toll interleukin-1 (IL-1) receptor domain of MyD88 attenuates staphylococcal enterotoxin B-induced pro-inflammatory cytokine production and toxicity in mice. *J. Biol. Chem.* **286(36)**, 31385-31396 (2011).

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