

EM 163

## Chemical Properties

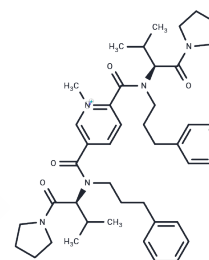
CAS No. : 1206480-93-4

Formula: C<sub>44</sub>H<sub>60</sub>IN<sub>5</sub>O<sub>4</sub>

Molecular Weight: 849.88

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	EM 163 is a TIR-TIR interaction inhibitor, which is a TIR (Toll/interleukin-1 receptor) structural domain mimic of the MyD88 protein. EM 163 targets the TIR structural domain in the IL-1 receptor and blocks the interaction with MyD88. EM 163 inhibits the production of inflammatory cytokines in vivo caused by staphylococcal enterotoxin B (SEB). EM 163 protects mice from SEB shock-induced death. In rat hippocampal neurons in vitro, EM 163 blocked the activation of p38 and the inhibitory effect of IL-1 $\beta$ on chemically induced long-term potentiation (LTP)-triggered protein synthesis.
Targets(IC50)	IFNAR,IL Receptor,MyD88,p38 MAPK,TNF
In vivo	Notably, a novel TIR domain peptidomimetic (EM163) blocked both the activation of p38 and the suppression of cLTP-dependent protein synthesis by IL-1 $\beta$ . Our data support a model where IL-1 $\beta$ suppresses LTP directly in neurons by inhibiting mTOR-dependent translation.[1]

## Solubility Information

Solubility	DMSO: 40 mg/mL (47.07 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

### Preparing Stock Solutions

---

	1mg	5mg	10mg
1 mM	1.1766 mL	5.8832 mL	11.7664 mL
5 mM	0.2353 mL	1.1766 mL	2.3533 mL
10 mM	0.1177 mL	0.5883 mL	1.1766 mL
50 mM	0.0235 mL	0.1177 mL	0.2353 mL

---

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Prieto GA, et al. Inhibition of LTP-Induced Translation by IL-1 $\beta$  Reduces the Level of Newly Synthesized Proteins in Hippocampal Dendrites. ACS Chem Neurosci. 2019;10(3):1197-1203.

Kissner TL, et al. Therapeutic inhibition of pro-inflammatory signaling and toxicity to staphylococcal enterotoxin B by a synthetic dimeric BB-loop mimetic of MyD88. PLoS One. 2012;7(7):e40773.

Lucas K, et al. Role of the Toll Like receptor (TLR) radical cycle in chronic inflammation: possible treatments targeting the TLR4 pathway. Mol Neurobiol. 2013;48(1):190-204.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481