# LMD-009

**Cat. No.:** HY-121885

**CAS No.:** 950195-51-4

**Molecular Formula:** $C_{29}H_{33}N_3O_3$

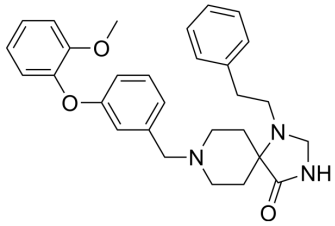
**Molecular Weight:** 471.59

**Target:** CCR

**Pathway:** GPCR/G Protein; Immunology/Inflammation

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 2 years |
| | -20°C | 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 250 mg/mL (530.12 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.1205 mL | 10.6024 mL | 21.2049 mL |
| 5 mM | 0.4241 mL | 2.1205 mL | 4.2410 mL |
| 10 mM | 0.2120 mL | 1.0602 mL | 2.1205 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.41 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

LMD-009 is a selective CCR8 nonpeptide agonist. LMD-009 mediates chemotaxis, inositol phosphate accumulation, and calcium release in high potencies with $EC_{50}$s from 11 to 87 nM[1].

**$IC_{50}$ & Target**

CCR8
11-87 nM (EC50)

**In Vitro**

LMD-009 (0-20 nM; 90 min) stimulates inositol phosphate accumulation in COS-7 cells expressing the human CCR8 receptor

[1].

LMD-009 (0-100 nM; 1 h) mediates calcium release in Chinese hamster ovary cells[1].

LMD-009 (0.1 nM-100 μM; 40 min) induces L1.2 cells migration[1].

LMD-009 (0-10 μM; 90 min) exhibits different molecular interaction with CCR8 mutations in COS-7 cells[1].

LMD-009 (0-10 nM; 90 min) exhibits no antagonist activity to other human chemokine receptors[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

| | |
|---|---|
| Cell Line: | COS-7 cells |
| Concentration: | 0-20 nM |
| Incubation Time: | 90 min |
| Result: | Stimulated inositol phosphate accumulation in COS-7 cells expressing the human CCR8 receptor with an $EC_{50}$ value of 11 nM. Inhibited none of the receptors of other human chemokine receptors. |

Cell Viability Assay[1]

| | |
|---|---|
| Cell Line: | Chinese hamster ovary cells |
| Concentration: | 0-100 nM |
| Incubation Time: | 1 hour |
| Result: | Regulated calcium release in Chinese hamster ovary cells with an $EC_{50}$ value 87 nM. |

Cell Migration Assay [1]

| | |
|---|---|
| Cell Line: | Lymphocyte L1.2 cells. |
| Concentration: | 0.1 nM- 100 μM |
| Incubation Time: | 40 min |
| Result: | Exhibited an $K_i$ value of 66 nM with L1.2 cells and specifically bound $^{125}$I-CCL1. |

## REFERENCES

[1]. Jensen PC, et al. Molecular interaction of a potent nonpeptide agonist with the chemokine receptor CCR8. Mol Pharmacol. 2007 Aug;72(2):327-40.



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