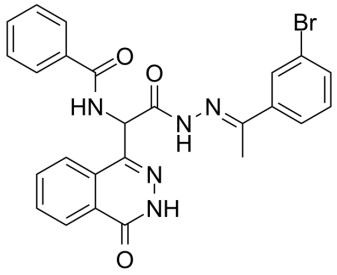
AC-55541

Cat. No.:	HY-14350
CAS No.:	916170-19-9
Molecular Formula:	$C_{25}H_{20}BrN_5O_3$
Molecular Weight:	518.36
Target:	Protease Activated Receptor (PAR)
Pathway:	GPCR/G Protein
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 : ≥ 51 mg/mL (98.39 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9292 mL	9.6458 mL	19.2916 mL
	5 mM	0.3858 mL	1.9292 mL	3.8583 mL
	10 mM	0.1929 mL	0.9646 mL	1.9292 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: ≥ 2.5 mg/mL (4.82 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.82 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.82 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AC-55541 is a highly selective protease-activated receptor 2 (PAR2) agonist (pEC_{50}=6.7), displays no activity at other PAR subtypes or at over 30 other receptors involved in nociception and inflammation. AC-55541 has pEC_{50} values of 5.9 and 6.6 in PI hydrolysis assays and Ca^{2+} mobilization assays and exhibits pronociceptive activity in vivo[1].

IC_{50} & Target

pEC50: 6.7 (PAR2)[1]

In Vitro

AC-55541 (100 nM; 1 hour) suppresses poly I:C–induced CXCL10 mRNA in NHBE cells[2].

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

RT-PCR[2]

Cell Line:	NHBE cells
Concentration:	100 nM (prior to poly I:C stimulation)
Incubation Time:	1 hour
Result:	Poly I:C-induced CXCL10 mRNA was suppressed.

CUSTOMER VALIDATION

- J Dermatol Sci. 2022 May 17;S0923-1811(22)00125-6.

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REFERENCES

[1]. Gardell LR, et al. Identification and characterization of novel small-molecule protease-activated receptor 2 agonists. J Pharmacol Exp Ther. 2008 Dec;327(3):799-808.

[2]. Homma T, et al. Role of Aspergillus fumigatus in Triggering Protease-Activated Receptor-2 in Airway Epithelial Cellsand Skewing the Cells toward a T-helper 2 Bias. Am J Respir Cell Mol Biol. 2016 Jan;54(1):60-70.

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