Product Data Sheet

Product Name: MSG 606
Cat. No.: GC50303

Chemical Properties

Cas. No.	1416983-77-1		
SMILES	NC(=O)CNC(=O)[C@H](CC1=CC=CC=C1)NC(=O)[C@H](CCCNC(N)=N)NC(=O)[C@H](CC(O)=O)NC(=O)[C@@H]1CSCCCC(=O)NCC(=O)N[C@@H](CC2=CNC=N2)C(=O)N[C@@H](CC2=CC=CC=C2)C(=O)N[C@@H](CCCNC(N)=N)C(=O)N[C@@H](CC2=CNC3=C2C=CC=C3)C(=O)N1		
Formula	$C_{62}H_{82}N_{20}O_{13}S$	M.Wt	1347.51
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	MSG 606		

Protocol

Animal experiment [1]:

Animal models	Male Sprague-Dawley (SD) rats

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Preparation Method	Rats were randomly divided into five groups: sham, SAH + vehicle 1(10 μl sterile saline, i.n), SAH + BMS-470539 (160 μg/kg, 10 μl), SAH + BMS-470539 + vehicle 2 (6 μl sterile saline, i.c.v), and SAH + BMS-470539 + MSG-606 (1 nmol/μl, 6 μl). MSG-606 was administered 1 h before SAH via i.c.v. route. Neurological testing was performed at 24 h after SAH. Ipsilateral/left cerebral cortex was sampled for western blotting.
Dosage form	1 nmol/μl, 6 μl, i.c.v
Applications	The inhibition of MC1R with MSG-606 significantly abolished the anti-inflammatory effects of BMS-470539 when compared to SAH + BMS-470539 + vehicle 2 group

References:

[1]: Xu, W., Mo, J., Ocak, U. et al. Activation of Melanocortin 1 Receptor Attenuates Early Brain Injury in a Rat Model of Subarachnoid Hemorrhage viathe Suppression of Neuroinflammation through AMPK/TBK1/NF-κB Pathway in Rats. Neurotherapeutics 17, 294-308 (2020). https://doi.org/10.1007/s13311-019-00772-x

Background

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Background

MSG-606 has potent antagonist activity and receptor selectivity for the human melanocortin 1 receptor (hMC1R) (IC50 = 17 nM) [1].

MSG-606 is an excellent probe for targeting specifically melanoma cells for skin cancer diagnosis. MSG-606 act as antagonist toward the melanoma cells. Binding and cAMP Activities of MSG-606 against Human Melanoma Cells (A375) with IC50 of 96 nM [1].

MSG-606 (1 nmol/μl, 6 μl) abolished the neuroprotective effects of the BMS-470539/MC1R system, in a subarachnoid hemorrhage (SAH) model [2].

References:
[1]:Cai M, Stankova M, Muthu D, et al. An unusual conformation of γ-melanocyte-stimulating hormone analogues leads to a selective human melanocortin 1 receptor antagonist for targeting melanoma cells[J]. Biochemistry, 2013, 52(4): 752-764.
[2]:Xu, W., Mo, J., Ocak, U. et al. Activation of Melanocortin 1 Receptor Attenuates Early Brain Injury in a Rat Model of Subarachnoid Hemorrhage viathe Suppression of Neuroinflammation through AMPK/TBK1/NF-κB Pathway in Rats. Neurotherapeutics 17, 294-308 (2020). https://doi.org/10.1007/s13311-019-00772-x

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