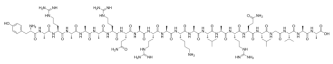
MMI-0100

Cat. No.:	HY-P3412
CAS No.:	1039342-24-9
Molecular Formula:	$C_{98}H_{171}N_{37}O_{26}$
Molecular Weight:	2283.64
Sequence Shortening:	YARAAARQARAKALARQLGVAA
Target:	MAPKAPK2 (MK2)
Pathway:	MAPK/ERK Pathway
Storage:	Sealed storage, away from moisture and light, under nitrogen Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (43.79 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.4379 mL	2.1895 mL	4.3790 mL
5 mM	0.0876 mL	0.4379 mL	0.8758 mL
10 mM	0.0438 mL	0.2189 mL	0.4379 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 14.29 mg/mL (6.26 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

MMI-0100 is a cell-permeant peptide inhibitor of mitogen activated protein kinase activated protein kinase II (MK2). MMI-0100 reduces intimal hyperplasia ex vivo and in vivo. MMI-0100 suppresses IL-6 expression without effect on IL-8 expression. MMI-0100 suppresses fibrotic processes such as vein graft disease[1].

In Vitro

Naphthofluorescein (compound 19) (0-10 μM; 24 hours) suppresses the HIF-1 reporter activity in a concentration-dependent manner. [1].

MMI-0100 (0.25 and 0.5 mM; 24 hours) slightly increases cell proliferation in both cell types compared to control cells treated with 20 ng/ml TNF-α alone[1].

MMI-0100 (1 mM) treatment also increases both EC (11%) and SMC (7%) proliferation as compared to control, this response is not as robust as that induced by treatment with 0.5 mM MMI-0100[1].

MMI-0100 does not induce EC apoptosis at any dose[1].

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

Cell Viability Assay[1]

Cell Line:	human endothelial cell (EC) and smooth muscle cell (SMC)
Concentration:	0.25, 0.5, and 1 mM
Incubation Time:	24 hours
Result:	Slightly increased cell proliferation in both cell types compared to control cells.

In Vivo

MMI-0100 (100 μM; 28 days) inhibits intimal hyperplasia in a mouse vein graft model[1].

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

Animal Model:	12-week-old C57Bl/6 wild type mice (intimal hyperplasia)[1]
Dosage:	100 μM
Administration:	vein graft, 28 days
Result:	Diminished wall thickness at all postoperative time points in vein grafts treated with MMI-0100, with a ratio of 2.6-fold thicker at 4 weeks, compared to 4.7-fold thicker at 4 weeks in control grafts.

REFERENCES

[1]. Akihito Muto, et al. Inhibition of Mitogen Activated Protein Kinase Activated Protein Kinase II with MMI-0100 reduces intimal hyperplasia ex vivo and in vivo. Vascul Pharmacol. Jan-Feb 2012;56(1-2):47-55.

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