Ro 31-9790

Cat. No.: HY-101703

CAS No.: 145337-55-9

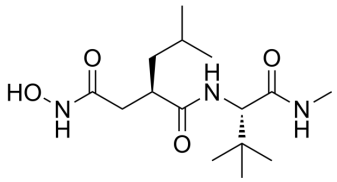
Molecular Formula: $C_{15}H_{29}N_3O_4$

Molecular Weight: 315.41

Target: MMP

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (158.52 mM; ultrasonic and warming and heat to 70°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1705 mL	15.8524 mL	31.7048 mL
	5 mM	0.6341 mL	3.1705 mL	6.3410 mL
	10 mM	0.3170 mL	1.5852 mL	3.1705 mL

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

BIOLOGICAL ACTIVITY

Description

Ro 31-9790 is a synthetic metalloproteinase (MMP) inhibitor.

IC_{50} & Target

MMP[1]

In Vitro

Ro 31-9790 inhibits L-selectin shedding from mouse and human lymphocytes, Jurkat T cells, and human monocytes with an IC_{50} of 0.3-0.4 μM on these cell types. The IC_{50} values obtained for Ro 31-9790 are 4.82 ± 0.75 μM, 1.16 ± 0.27 μM, 0.70 ± 0.06 μM, 4.47± 1.27 μM and 0.38 ± 0.05 μM for mouse lymphocyte L-selectin shedding, Jurkat L-selectin shedding, human lymphocyte L-selectin shedding, human monocyte L-selectin shedding and human monocyte TNF-α shedding[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]

For mouse and human lymphocytes and Jurkat T cells, 100% inhibition is set as the percentage of cells positive for L-selectin in an untreated sample (after flow cytometric analysis) or the concentration of soluble L-selectin in the supernatant of an

untreated cell sample (after ELISA); 0% inhibition is set at the appropriate value for a PMA-treated sample. For results from human monocytes, a different calculation is needed to allow direct comparison of L-selectin and TNF-α shedding. Therefore, in this case 100% inhibition is set as the percentage of cells positive for L-selectin in the presence of PMA+50 μM Ro 31-9790 or the percentage of cells positive for cell surface TNF-α in the presence of LPS+50 μM Ro 31-9790 (doses of Ro 31-9790 which gave maximal inhibition); 0% inhibition is set as the percentage of cells positive for L-selectin or TNF-α in the presence of PMA or LPS, respectively. Intermediate percent inhibition is calculated. The IC_{50} value for inhibitor in each system is defined as the concentration of inhibitor which gave 50% inhibition, where 100% inhibition is set as the percentage of cells positive for L-selectin or cell surface TNF-α in the presence of Phorbol myristate acetate (PMA)+50 μM Ro 31-9790 or Lipopolysaccharide (LPS)+50 μM Ro 31-9790, respectively (doses of Ro 31-9790 which gave maximal inhibition) and 0% inhibition is set as the percentage of cells positive for L-selectin or TNF-α in the presence of PMA or LPS alone, respectively[1].

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

REFERENCES

[1]. Borland G, et al. Tissue inhibitor of metalloproteinases-3 inhibits shedding of L-selectin from leukocytes. J Biol Chem. 1999 Jan 29;274(5):2810-5.

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