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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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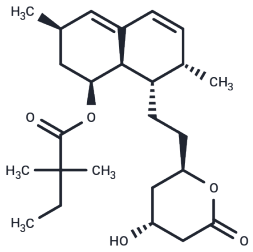
# Data Sheet (Cat.No.T0687)

TargetMol

## Simvastatin

### Chemical Properties



CAS No. : 79902-63-9

Formula: C25H38O5

Molecular Weight: 418.57

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

### Biological Description

| | |
|---|---|
| Description | Simvastatin (MK 733) is an HMG-CoA reductase inhibitor (Ki=0.2 nM) with oral activity. Simvastatin has hypolipidemic activity, inhibits hepatic production of cholesterol, and is also used for the prevention of cardiovascular disease. |
| Targets(IC50) | Apoptosis,Mitophagy,Ferroptosis,HMG-CoA Reductase,Autophagy |
| In vitro | **METHODS**: BCa cells 5637, EJ and T24 were treated with Simvastatin (0.5-40 μM) for 48 h. Cell viability was measured by MTT assay.<br>**RESULTS**: Simvastatin significantly inhibited the survival of the three BCa cells in a dose-dependent manner. [1]<br>**METHODS**: Human fibroblast SAEC and four tumor cells MCF7, HepG2, NCH, NCI were treated with Simvastatin (20 μM) for 72 h. Apoptosis was detected by TUNEL.<br>**RESULTS**: Simvastatin induced apoptosis in different types of human tumor cells, but not in SAEC cells. [2] |
| In vivo | **METHODS**: To study in vivo activity, Simvastatin (60 mg/kg, aqueous 2% DMSO+30% PEG 400+5% Tween 80) was administered by gavage to C57BL/6J mice once daily for six weeks on a CF diet.<br>**RESULTS**: Simvastatin treatment reduced serum cholesterol levels by 18%, and retinal cholesterol and lipoprotein cholesterol levels by 24% and 21%, respectively. [3]<br>**METHODS**: To assay antitumor activity in vivo, Simvastatin (5-50 mg/kg in methylcellulose) was administered to BALB/c nu/nu mice by gavage once daily for three days. Subsequently, colorectal cancer cells COLO205 were subcutaneously inoculated into the right side of the mice.<br>**RESULTS**: Simvastatin inhibited tumor growth in a xenograft mouse model by inducing tumor cell apoptosis and inhibiting tumor angiogenesis. [4] |
| Kinase Assay | For assessment of Akt protein kinase activity in vitro, substrate (2 μg histone H2B or 25 μg eNOS peptide) is incubated with Akt immunoprecipitated from cell lysate using goat polyclonal anti-Akt1 antibody. Kinase reactions are initiated following the addition of reaction components to a final concentration of ATP (50 μM) containing 10 μCi of 32P-γATP, dithiotreitol (1 mM), HEPES buffer (20 mM, pH 7.4), MnCl2 (10 mM), MgCl2 (10 mM). After incubation for 30 min at 30°C, phosphorylated histone H2B is visualized after SDS-PAGE (15%) and autoradiography. To estimate the extent of 32P incorporation into eNOS peptides, each reaction mixture is measured by spotting onto phosphocellulose disc filter and the amount of phosphate incorporated is measured by Cerenkov counting. The wild-type peptide sequence is 1174-RIRTQSFSLQERHLRGAVPWA-1194, and the mutant |

| | |
|---|---|
| | eNOS peptide is identical except that serine 1179 is substituted by alanine. |

## Solubility Information

| | |
|---|---|
| Solubility | Ethanol: 31.4 mg/mL (75 mM),<br>DMSO: 50 mg/mL (119.45 mM),<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.3891 mL | 11.9454 mL | 23.8909 mL |
| 5 mM | 0.4778 mL | 2.3891 mL | 4.7782 mL |
| 10 mM | 0.2389 mL | 1.1945 mL | 2.3891 mL |
| 50 mM | 0.0478 mL | 0.2389 mL | 0.4778 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Zhang W, Pan X, Xu Y, et al.Mevalonate improves anti-PD-1/PD-L1 efficacy by stabilizing CD274 mRNA.Acta Pharmaceutica Sinica B.2023