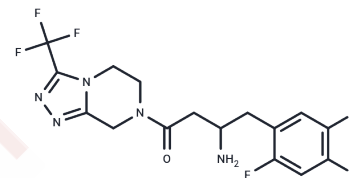


## (Rac)-Sitagliptin

### Chemical Properties

CAS No. : 823817-56-7  
 Formula: C<sub>16</sub>H<sub>15</sub>F<sub>6</sub>N<sub>5</sub>O  
 Molecular Weight: 407.31  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
*Actual storage temperature shall be subject to the COA.*



### Biological Description

Description	(Rac)-Sitagliptin is an isomer of Sitagliptin. Sitagliptin (MK-0431) is an effective, orally active DPP4 inhibitor with an IC <sub>50</sub> value of 19 nM in Caco-2 cells.
Targets(IC <sub>50</sub> )	Proteasome, Autophagy
In vitro	Sitagliptin phosphate is a potent inhibitor of DPP-4, with an IC <sub>50</sub> value of 19 nM in Caco-2 cell extracts. It reduces the in vitro migration of isolated splenic CD4 T cells via a cAMP/PKA/Rac1 activation pathway. Sitagliptin exerts a novel direct effect by stimulating GLP-1 secretion from intestinal L cells through a DPP-4-independent, protein kinase A and MEK-ERK1/2-dependent mechanism, and it may reduce the impact of autoimmunity on graft survival.
In vivo	In vivo, sitagliptin phosphate demonstrates an ED <sub>50</sub> of 2.3 mg/kg at 7 hours post-administration and 30 mg/kg at 24 hours in freely-fed Han-Wistar rats for inhibiting plasma DPP-4 activity. In a streptozotocin-induced type 1 diabetes mouse model, elevated plasma DPP-4 levels are significantly reduced upon administration of sitagliptin phosphate, likely enhancing graft survival through improved hyperglycemic regulation. The plasma clearance and volume of distribution of sitagliptin phosphate in rats (40-48 mL/min/kg, 7-9 L/kg) exceed those observed in dogs (9 mL/min/kg, 3 L/kg), with a shorter half-life in rats (2 hours) compared to dogs (4 hours) [5].

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.4551 mL	12.2757 mL	24.5513 mL
5 mM	0.491 mL	2.4551 mL	4.9103 mL
10 mM	0.2455 mL	1.2276 mL	2.4551 mL
50 mM	0.0491 mL	0.2455 mL	0.491 mL

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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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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