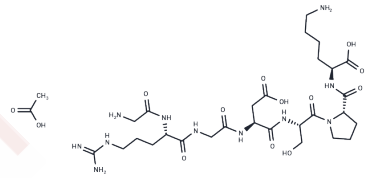
Data Sheet (Cat.No.T7566L1)

TargetMol

GRGDSPK acetate

Chemical Properties



CAS No. : 144027-77-0

Formula: C30H53N11O13

Molecular Weight: 775.81

Storage: Store at low temperature,Keep away from moisture
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	GRGDSPK acetate shows inhibitory activity against integrin-fibronectin binding and can be used in research on integrins in bone formation and resorption.
Targets(IC50)	Beta Amyloid
In vitro	By measuring calcium content and 70 bonehnit area of tissue in parietal bones 18 days old isolated from pregnant Sprague-Dawley rats, we know that GRGDSPK (EMD 56574; RGD; 0.1-50 μM; for 4 days) inhibits mineralization in a dose-dependent manner.[1] Treatment with GRGDSPK (10 and 50 μM; 4-day treatment) results in significant alterations in bone morphology, characterized by disruptions in the organization of osteoblasts and the mineralized matrix.[1] In the presence of GRGDSPK peptide (RGD; 250 μM), added to the medium, the binding between integrins and fibronectin is effectively blocked, leading to a considerable increase in the average size of cell aggregates in wild-type cells.[2] Addition of GRGDSPK (250 μM) leads to a significant reduction in adhesion forces and work exerted by wild-type mesendodermal progenitors, indicating the involvement of integrins expressed in these progenitors and the specificity of the detachment parameters recorded for fibronectin.[2] GRGDSPK (RGD-containing, 1.5 mM, 1.0 mM, and 0.5 mM) and RGD-modified peptides, at concentrations of 1.5 mM, 1.0 mM, and 0.5 mM, impair the fertilization ability of bovine oocytes by sperm cells, resulting in a dose-dependent reduction in cleavage rates.[3]

Solubility Information

Solubility	DMSO: 7.76 mg/mL (10 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.289 mL	6.4449 mL	12.8898 mL
5 mM	0.2578 mL	1.289 mL	2.578 mL
10 mM	0.1289 mL	0.6445 mL	1.289 mL
50 mM	0.0258 mL	0.1289 mL	0.2578 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.

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.

Reference

Gronowicz GA, et al. Synthetic peptide containing Arg-Gly-Asp inhibits bone formation and resorption in a mineralizing organ culture system of fetal rat parietal bones. J Bone Miner Res. 1994;9(2):193-201.
Puech PH, et al. Measuring cell adhesion forces of primary gastrulating cells from zebrafish using atomic force microscopy. J Cell Sci. 2005;118(Pt 18):4199-4206.
Sessions BR, et al. Effects of amino acid substitutions in and around the arginine-glycine-aspartic acid (RGD) sequence on fertilization and parthenogenetic development in mature bovine oocytes. Mol Reprod Dev. 2006;73 (5):651-657.