

Product Data Sheet

Product Name: Eptifibatide Acetate

Cat. No.: GC12447

Chemical Properties

Cas. No. 148031-34-9

Chemical Name 2-((3R,11S,17S,20S,25aS)-20-((1H-indol-3-yl)methyl)-3-carbamoyl-11-(4-((diaminomethylene)amino)butyl)-1,9,12,15,18,21-hexaoxodocosahydro-1H-pyrrolo[2,1-g][1,2,5,8,11,14,17,20]dithiahexaazacyclotricosin-17-yl)acetic acid

SMILES O=C([C@@](C([H])([H])C1=C([H])N([H])C2=C([H])C([H])=C([H])C([H])=C12)([H])N([H])C([C@@](C([H])([H])C(O[H])=O)([H])N([H])C(C([H])([H])N([H])C3=O)=O)=O)N4[C@@](C(N([H])[C@@](C(N([H])[H])=O)([H])C([H])([H])SSC([H])([H])C([H])([H])C(N([H])[C@@]3([H])C([H])([H])

Formula $C_{35}H_{49}N_{11}O_9S_2$

M.Wt 831.96

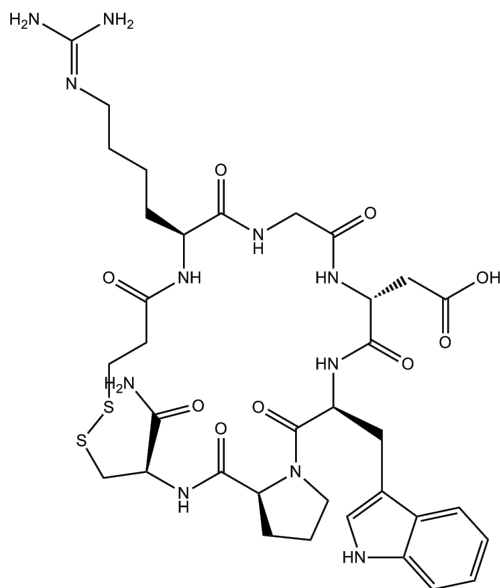
Solubility $\geq 28.7\text{mg/mL}$ in DMSO

Storage -20°C , protect from light

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Protocol

Cell experiment [1, 2]:

Cell lines Activated platelets and leukocytes

Preparation method The solubility of this compound in DMSO is >28.7 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting condition 0.0625-1.5 w g/ml

Applications Eptifibatide dose-dependently enhanced (0.0625-1.5 w g/ml) both collagen-induced platelet-monocyte (P/M) formation and monocyte TF expression with maximum enhancement about 60 and 120%, respectively, at 0.5 w g/ml eptifibatide. Eptifibatide had only a minor effect on platelet-neutrophil (P/N) formation and no effect on neutrophil TF expression. Eptifibatide dose-dependently reduced ADP, collagen, and thrombin-induced platelet aggregation (IC₅₀ = 16-27 mg/mL), dense granule secretion (IC₅₀ = 22-31 mg/mL) and lysosome secretion (IC₅₀ = 25-50 mg/mL). Eptifibatide (8 mg/mL) together with bivalirudin (70 ng/mL, a direct thrombin inhibitor) effectively (approximately 90%) reduced platelet aggregation induced by thrombin (0.2 U/mL).

Other notes Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

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References:

[1]. Scholz T, Zhao L, Temmler U, et al. The GPIIb/IIIa antagonist eptifibatide markedly potentiates platelet-leukocyte interaction and tissue factor expression following platelet activation in whole blood in vitro[J]. Platelets, 2002, 13(7): 401-406.

[2]. Ciborowski M, Tomasiak M. The in vitro effect of eptifibatide, a glycoprotein IIb/IIIa antagonist, on various responses of porcine blood platelets[J]. Acta poloniae pharmaceutica, 2008, 66(3): 235-242.

Background

Eptifibatide is a cyclic heptapeptide, acts as a competitive antagonist for the activated platelet glycoprotein IIb/IIIa receptor, with anti-platelet activity[1].

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References:

[1]. Gilchrist IC, et al. Platelet glycoprotein IIb/IIIa inhibitors in percutaneous coronary intervention: focus on the pharmacokinetic-pharmacodynamic relationships of eptifibatide. Clin Pharmacokinet. 2003;42(8):703-20.

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