

Product Data Sheet

Product Name: Thrombin Receptor Activator for Peptide 5 (TRAP-5)

Cat. No.: GP10085

Chemical Properties

Cas. No. 141685-53-2

Chemical Name (2S)-2-[[[(2S)-2-[[[(2S)-2-[[[(2S)-2-amino-3-hydroxypropanoyl]amino]-3-phenylpropanoyl]amino]-4-methylpentanoyl]amino]-4-methylpentanoyl]amino]-5-(diaminomethylideneamino)pentanoic acid

SMILES CC(C)CC(C(=O)NC(CC(C)C)C(=O)NC(CCCN=C(N)N)C(=O)O)NC(=O)C(CC1=CC=CC=C1)NC(=O)C(CO)N

Formula C₃₀H₅₀N₈O₇

M.Wt

634.77

Solubility ≥ 63.5mg/mL in DMSO

Storage

Store at -20°C

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

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

Structure

Background

Thrombin Receptor Activator for Peptide 5 (TRAP-5), (C₃₀H₅₀N₈O₇), a peptide with the sequence NH₂-Ser-Phe-Leu-Leu-Arg-COOH, MW= 634.76. coagulation factor II (thrombin) receptor is a G protein-coupled receptor involved in the regulation of thrombotic response. Proteolytic cleavage leads to the activation of the receptor¹. Thrombin signalling in platelets contributes to hemostasis and thrombosis. Endothelial PARs participate in the regulation of vascular tone and permeability while in vascular smooth muscle they mediate contraction, proliferation, and hypertrophy. PARs contribute to the pro-inflammatory response observed in atherosclerosis and restenosis. Recent research has also implicated these novel receptors in muscle growth and bone cell differentiation and proliferation². In T cells, activation of PAR1, PAR2 and PAR3 induce tyrosine phosphorylation of VAV1. Activation of PARs also led to an increase in tyrosine phosphorylation of ZAP-70 and SLP-76, two key proteins in T cell receptor (TCR) signalling³.

References:

1. Bahou WF, Nierman WC, Durkin AS, Potter CL, Demetrick DJ (September 1993). "Chromosomal assignment of the human thrombin receptor gene: localization to region q13 of chromosome 5". *Blood* 82 (5): 1532-7.
2. Martorell L, Martínez-González J, Rodríguez C, Gentile M, Calvayrac O, Badimon L (February 2008). "Thrombin and protease-activated receptors (PARs) in atherothrombosis". *Thromb. Haemost.* 99 (2): 305-15.
3. Bar-Shavit R, Maoz M, Yongjun Y, Groysman M, Dekel I, Katzav S (January 2002). "Signalling pathways induced by protease-activated receptors and integrins in T cells". *Immunology* 105 (1): 35-46.

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

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