Product Data Sheet

Product Name: GTP binding protein 1 fragment [Multiple species]
Cat. No.: GP10004

Chemical Properties

Cas. No.			
SMILES	NC(CCCCN)C(NC(C(C)C)C(NC(C(C)CC)C(NC(C(C)O)C(NC(CC1=CC=CC=C1)C(NC(C(C)CC)C(NC(CC(O)=O)C(NC(CC(C)C)C(O)=O)=O)=O)=O)=O)=O)=O		
Formula	$C_{46}H_{77}N_9O_{12}$	M.Wt	948.16
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be 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	GTP binding protein 1 fragment [Multiple species]		

Background

GTP binding protein 1 fragment [Multiple species], (C46H77N9O12), a peptide with the sequence H2N-Lys-Val-Ile-Thr-Phe-Ile-Asp-Leu-OH, MW= 948.16. G proteins, also known as guanine nucleotide-binding proteins, are a family of proteins involved in transmitting chemical signals originating from outside a cell into the inside of the cell. G proteins function as molecular switches. Their activity is regulated by factors that control their ability to bind to and hydrolyze guanosine triphosphate (GTP) to guanosine diphosphate (GDP). When they bind GTP, they are 'on', and, when they bind GDP, they are 'off'. G proteins belong to the larger group of enzymes called GTPases[(1)]. G proteins are important signal transducing molecules in cells. "Malfunction of GPCR [G Protein-Coupled Receptor] signaling pathways are involved in many diseases, such as diabetes, blindness, allergies, depression, cardiovascular defects, and certain forms of cancer. It is estimated that more than half of the modern drugs' cellular targets are GPCRs." [(2)]The human genome encodes roughly 950 G protein-coupled receptors, which detect photons (light), hormones, growth factors, drugs, and other endogenous ligands. Approximately 150 of the GPCRs found in the human genome have unknown functions.

Figure1 the structures of GTP binding protein

Figure 2 Mechanisms of GTP binding protein regulaltion

Ref:

1. Hurowitz EH, Melnyk JM, Chen YJ, Kouros-Mehr H, Simon MI, Shizuya H (2000). "Genomic characterization of the human heterotrimeric G protein alpha, beta, and gamma subunit genes". *DNA Res* 7 (2): 111–20.

2. Wu G (2010). "Assays with GPCRs". *Assay Development: Fundamentals and Practices*. New York: Wiley.

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