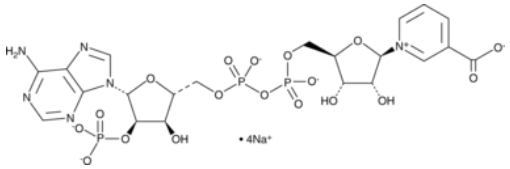
Product Data Sheet

Product Name: NAADP (sodium salt)
Cat. No.: GC44290

Chemical Properties

Cas. No.			
SMILES	NC1=NC=NC2=C1N=CN2[C@H]3[C@H](OP([O-])([O-])=O)[C@H](O)[C@@H](COP(OP(OC[C@@H]4[C@@H](O)[C@@H](O)[C@H]([N+]5=CC(C([O-])=O)=CC=C5)O4)([O-])=O)([O-])=O)O3.[Na+].[Na+].[Na+].[Na+]		
Formula	C21H23N6O18P3•4Na	M.Wt	832.3
Solubility	Water: 50 mg/ml	Storage	Store at -20°C
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			

Background

Nicotinic acid adenine dinucleotide phosphate (NAADP) is a secondary messenger that induces calcium mobilization. It induces calcium release from endosomes and lysosomes via two-pore channel 2 (TPC2) and TPC1, which then stimulates large-scale calcium release from granules and the endoplasmic reticulum mediated by type 1 ryanodine receptors (RyR2s), RyR3s, and inositol-(1,4,5)-triphosphate receptors (IP3Rs). NAADP induces calcium mobilization in sea urchin and starfish eggs post fertilization to block polyspermy and activate embryogenesis. NAADP-induced calcium mobilization induces VEGF-mediated angiogenesis in human umbilical vein endothelial cells (HUVECs). It also alkalizes lysosomal pH thereby inhibiting fusion between autophagosomes and lysosomes and arresting autophagic flux in mouse embryonic stem cells.

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