Product Data Sheet

Product Name:	Rhodopsin peptide
Cat. No.:	GP10042

Chemical Properties

Cas. No.			
SMILES	CC(C)C(N)C(NC(CO)C(NC(CCCCN)C(NC(C(O)C)C(NC(CCC(O)=O)C(NC(C(O)C)C(NC(CO)C(NC(C(NC(C(C)C)C(NC(C)C(N1C(C(NC(C)C(O)=		
Formula	$C_{51}H_{88}N_{14}O_{20}$	M.Wt	
Solubility	≥ 121.7mg/mL in DMSO	Storage	
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		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Rhodopsin peptide		

Background

Rhodopsin peptide,(C51H88N14O20), a peptide with the sequence H2N-Val-Ser-Lys-Thr-Glu-Thr-Ser-Gln-Val-Ala-Pro-Ala-OH, MW= 1217.33. Rhodopsin, also known as visual purple, is a biological pigment in photoreceptor cells of the retina that is responsible for the first events in the perception of light. Rhodopsins belong to the G-protein-coupled receptor family and are extremely sensitive to light[1]. Mutation of the rhodopsin gene is a major contributor to various retinopathies such as retinitis pigmentosa. In general, the disease-causing protein aggregates with ubiquitin in inclusion bodies, disrupts the intermediate filament network, and impairs the ability of the cell to degrade non-functioning proteins, which leads to photoreceptor apoptosis[2]. Other mutations on rhodopsin lead to X-linked congenital stationary night blindness, mainly due to constitutive activation, when the mutations occur around the chromophore binding pocket of rhodopsin. Several other pathological states relating to rhodopsin have been discovered including poor post-Golgi trafficking, dysregulative activation, rod outer segment instability and arrestin binding[3].

References:
1. Litmann BJ, Mitchell DC (1996). "Rhodopsin structure and function". In Lee AG. Rhodopsin and G-Protein Linked Receptors, Part A (Vol 2, 1996) (2 Vol Set).Greenwich,Conn: JAI Press. pp. 1-32.
2. Saliba RS, Munro PM, Luthert PJ, Cheetham ME (15 July 2002). "The cellular fate of mutant rhodopsin: quality control, degradation and aggresome formation". J. Cell. Sci. 115 (Pt 14): 2907-18.
3. Mendes HF, van der Spuy J, Chapple JP, Cheetham ME (April 2005). "Mechanisms of cell death in rhodopsin retinitis pigmentosa: implications for therapy". Trends Mol Med 11 (4): 177-85.

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