

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)=O)=O)CCC1)=O)=O)=O)CCC(N)=O)=O)=O)=O)=O)=O)=O)=O

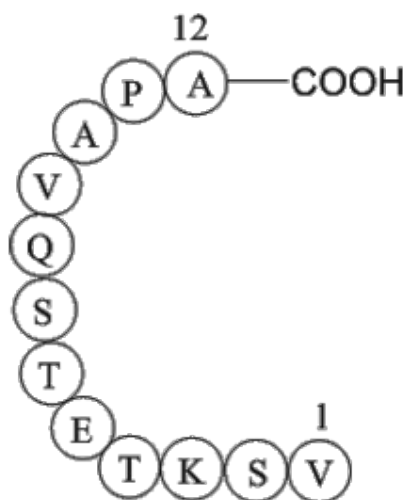
Formula $C_{51}H_{88}N_{14}O_{20}$ M.Wt 1217.33

Solubility $\geq 121.7\text{mg/mL}$ in DMSO 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

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

Product Data Sheet

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 light¹. 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 apoptosis². 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 binding³.

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.

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