

Rhodopsin peptide

Chemical Properties

CAS No.:	TP2199
Formula:	C ₅₁ H ₈₈ N ₁₄ O ₂₀
Molecular Weight:	1217.33
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Rhodopsin peptide is a peptide with the sequence H ₂ N-Val-Ser-Lys-Thr-Glu-Thr-Ser-Gln-Val-Ala-Pro-Ala-OH, MW= 1217.33. Rhodopsin 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. Mutation of the rhodopsin gene is a major contributor to various retinopathies such as retinitis pigmentosa.
In vitro	In general, the disease-causing protein aggregates with ubiquitin in inclusion bodies disrupt the intermediate filament network and impairs the ability of the cell to degrade non-functioning proteins, which leads to photoreceptor apoptosis. 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, dysregulated activation, rod outer segment instability, and arrestin binding [2][3].

Solubility Information

Solubility	DMSO: ≥121.7mg/mL (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.821 mL	4.107 mL	8.215 mL
5 mM	0.164 mL	0.821 mL	1.643 mL
10 mM	0.082 mL	0.411 mL	0.821 mL
50 mM	0.016 mL	0.082 mL	0.164 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Malvaez, M., et al., HDAC3-selective inhibitor enhances extinction of cocaine-seeking behavior in a persistent manner. Proc Natl Acad Sci U S A, 2013. 110(7): p. 2647-52.
2. Rogge, G.A., et al., HDAC3 is a negative regulator of cocaine-context-associated memory formation. J Neurosci, 2013. 33(15): p. 6623-32.
3. Wells, C.E., et al., Inhibition of histone deacetylase 3 causes replication stress in cutaneous T cell lymphoma. PLoS One, 2013. 8(7): p. e68915.

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