

Sensory rhodopsin-1 (*Halobacterium salinarum*)

Lot # 600432-3023-024

Product	Catalog No.	Package size
Sensory rhodopsin-1_Hs (100 ug)	28911	1 x 100 µg

Product Description

Alternative names	SR-1, HsSRI
UniProt number	P0DMH8
Protein class	7-transmembrane protein
Organism	<i>Halobacterium salinarum</i> S9
Sequence	wild-type sequence 1-234 aa (lacking 15 aa at the C-terminus), 10 x His-tag MDAVATAYLGGAVALIVGVAFVWLLYRSLDGSPHQSAALAPLAIIPVFAGLSYVGMAYDIGTVIVN GNQIVGLRYIDWLVTTPILVGYVGYAAGASRRSIIIGVMVADALMIAVGAGAVVTDGTLKWALFG VSSIFHLSLFAYLYVIFPRVVPDVPEQIGLFNLLKNHIGLLWLAYPLVWLFPGAGIGEATAAGVAL TYVFLDVLAKVPYVYFFYARRRVFMHSESHHHHHHHHHH
Affinity tags	His-tag (C-terminus)
Size	234 amino acids 25,423 Da
Absorbance	Extinction coefficient at 590 nm: 54,000 M ⁻¹ cm ⁻¹
Function	Photoreceptor protein undergoing a photocycle, Retinal protein, phototaxis receptor
Literature references	<ol style="list-style-type: none"> 1. Radu I, Budyak IL, Hoomann T, Kim YJ, Engelhard M, Labahn J, Büldt G, Heberle J, Schlesinger R. (2010) Signal relay from sensory rhodopsin I to the cognate transducer HtrI: assessing the critical change in hydrogen-bonding between Tyr-210 and Asn-53. <i>Biophys Chem.</i> Aug;150(1-3):23-8. doi:10.1016/j.bpc.2010.02.017. Epub 2010 Mar 2. 2. Schmies G, Chizhov I, Engelhard M. (2000) Functional expression of His-tagged sensory rhodopsin I in <i>Escherichia coli</i>. <i>FEBS Lett.</i> Jan 21;466(1):67-9.

Quality Control

Purity	>98% as determined by SDS-PAGE, see Figure 1
Activity	Binding of ligand all-trans retinal, covalently bound to a lysine residue. Evaluation of UV-VIS spectrum: absorbance ratio 280 nm / 590 nm = 1.7, see Figure 2

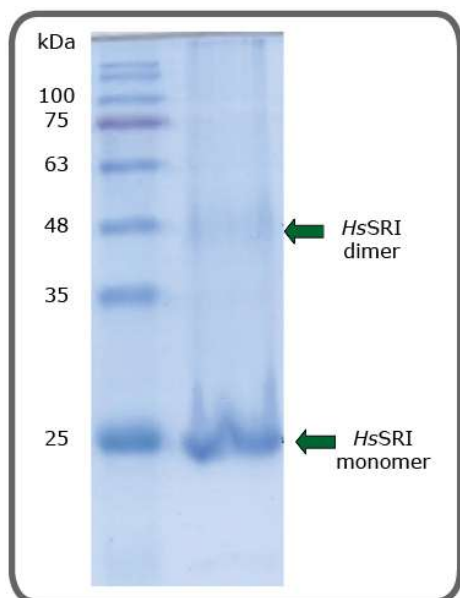


Fig. 1: SDS-PAGE of SR-1 from *H. salinarum*.

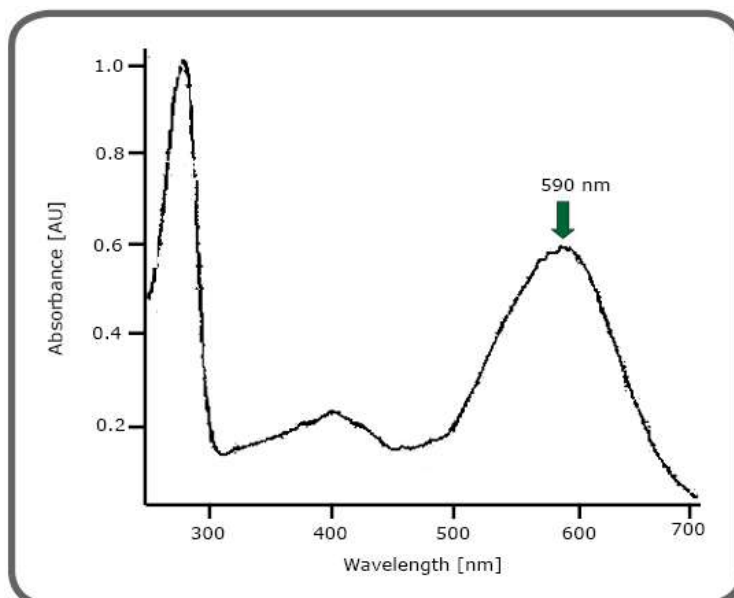


Fig. 2: Absorbance spectrum of SR-1 from *H. salinarum*.

Preparation:

Expression system	<i>E. coli</i>
Purification	PureCube Ni-NTA Agarose
Buffer	4 M NaCl, 50 mM MES pH 6.0, 0.03% dodecyl maltoside (DDM)
Concentration	2.7 mg/mL
Volume	40 μ L per 100 μ g aliquot

Applications

- SDS-PAGE
- Western Blot
- Protein Crystallization
- Biochemical and biophysical analyses

Shipping & Storage

Shipping conditions	Dry ice
Storage conditions	-80°C. Avoid freeze-thaw cycles
Important: Sensory rhodopsin is light-sensitive and must be stored in the dark.	

Disclaimer: Our products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease.