

Sensory rhodopsin-2 (*Natronomonas pharaonis*)

Lot # 600434-3023-024

Product	Catalog No.	Package size
Sensory rhodopsin-2_Np (100 ug)	28931	1 x 100 µg

Product Description

Alternative names	SR-2, <i>Np</i> SRII
UniProt number	P42196
Protein class	7-transmembrane protein
Organism	<i>Natronomonas pharaonis</i> (<i>Natronobacterium pharaonis</i>)
Sequence	wild-type sequence, full-length, 7x His-tag
	MVGLTTLFWLGAIGMLVGTALFAWAGRDAGSGERRYVTLVGGISGIAAVAYVVMALGVGWVPV AERTVFAPRYIDWILTTPLIVYFLGLLAGLDSREFGIVITLNTVVMLAGFAGAMVPGIERYALFGM GAVAFGLVYYLVGPMTESASQRSSGIKSLYVRLRNLTIVLWAIYPIWLLGPPGVAL LTPTVDV ALIVYLDLVTKVGFGFIALDAAATLRAEHGESLAGVDTDAPAVAD HHHHHHH
Affinity tags	His-tag (C-terminus)
Size	246 amino acids 26,315 Da
Absorbance	Extinction coefficient at 500 nm: 45,500 M ⁻¹ cm ⁻¹
Function	Photoreceptor protein undergoing a photocycle, Retinal protein, photophobic phototaxis receptor
Literature references	<ol style="list-style-type: none"> Gordeliy VI, Labahn J, Moukhametzianov R, Efremov R, Granzin J, Schlesinger R, Büldt G, Savopol T, Scheidig AJ, Klare JP, Engelhard M. (2002) Molecular basis of transmembrane signalling by sensory rhodopsin II-transducer complex. <i>Nature</i> Oct 3;419(6906):484-7. Orekhov P, Bothe A, Steinhoff HJ, Shaitan KV, Raunser S, Fotiadis D, Schlesinger R, Klare JP, Engelhard M. (2017) SensoryRhodopsin I and Sensory Rhodopsin II Form Trimers of Dimers in Complex with their Cognate Transducers. <i>Photochem Photobiol.</i> 2017 May;93(3):796-804. doi: 10.1111/php.12763.

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 / 500 nm = 2.8, see Figure 2

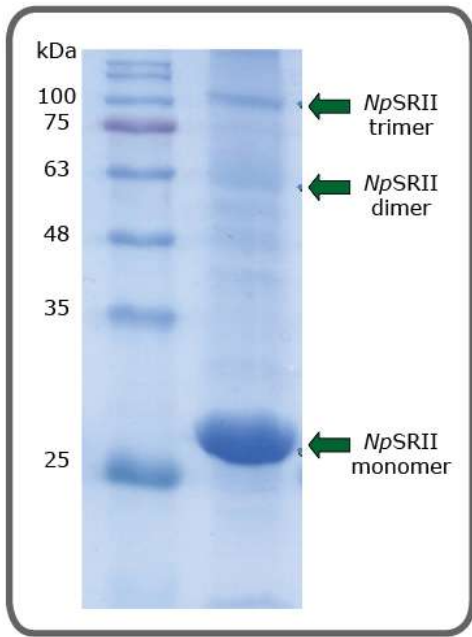


Fig. 1: SDS-PAGE of SR-2 from *N. pharaonis*.

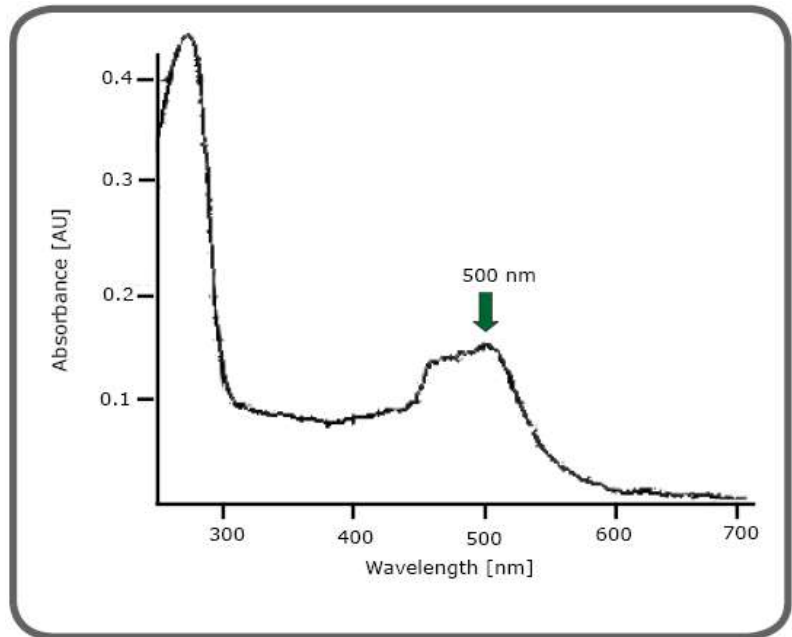


Fig. 2: Absorbance spectrum of SR-2 from *N. pharaonis*.

Preparation:

Expression system	<i>E. coli</i>
Purification	PureCube Ni-NTA Agarose
Buffer	300 mM NaCl, 50 mM MES pH 6.0, 0.03% dodecyl maltoside (DDM)
Concentration	8.95 mg/mL
Volume	12 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.

Proteins are our passion.