BR- Bacteriorhodopsin # PL027

Product specification

Acronym: BR
Synonyms: Bacteriorhodopsin (BO)
Origin species : Bacteria
Protein reference : P02945 (UniProtKB)
WP_010903069.1 (GenBank)
Family: GPCR

Expression system: E.coli based CFPS
Format: Proteoliposomes
Protein sequence: Gln14 – Ser261
Tag : 6xHis tag (N-ter)
Cleavage site: Factor Xa
Product MW: 29.4 kDa
Application: Drug screening & discovery, antibody development, structural biology

Product description

The Bacteriorhodopsin is a transmembrane protein that acts as a light-driven proton pump in Halobacterium salinarum, converting light energy into a proton gradient. BR functions as a pump of protons from the cytoplasm to the extracelullar space, in order to create a proton gradient. Afterwards, protons enter the cell, and the cell takes advantage of that by coupling to a reaction that synthesizes ATP. The energy required by BR is provided by green light. At the end of the process, the outcome is that the cell transformed energy from light into ATP, the energetic currency of the cell.

Recombinant protein sequence

His tag – factor X cleavage site –
MQAQITGRPEWIWLALGTALMGLGTLYFLVKGMGVSDPDAKKFYAITTLVPAIAFTMYLSMLLGYGLTMVPFGGEQNPIYWARYA
DWLFTTPLLLLDLALLVDADQGTILALVGADGIMIGTGLVGALTKVYSYRFVWWAISTAAMLYILYVLFFGFTSKAESMRPEVASTF
KVLRNVTVVLWSAYPVVWLIGSEGAGIVPLNIETLLFMVLDVSAKVGFGLILLRSRAIFGEAEAPEPSAGDGAAATS

Quality analysis

Purity:
Liposomes are directly incorporated into the Cell-Free reaction, thus, some impurities from the *E.coli* lysate might be present in the proteoliposomes.
A negative control (proteoliposomes without the protein of interest) can be provided (useful for screening, immunization…).
The purity can be improved by protein expression in detergent and relipidation after purification step(s).

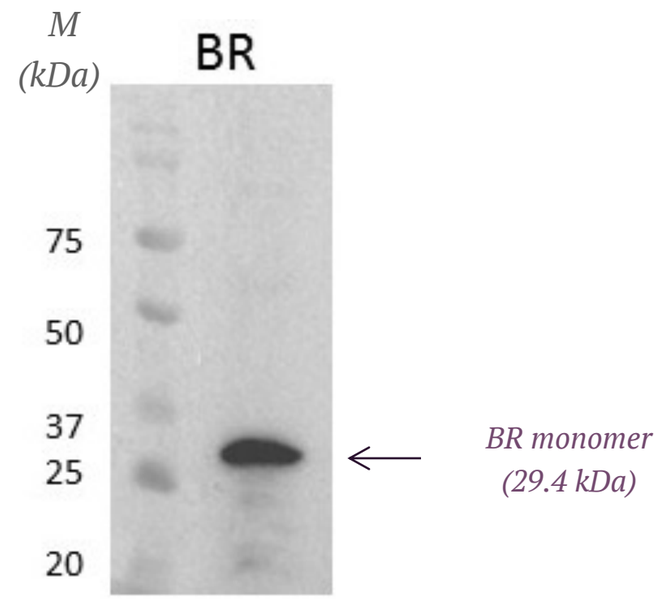


Fig.1: *Identification of BR in the proteoliposomes by Western blot (using an anti-6xHis antibody).*

Purification procedure: BR proteoliposomes are purified on a sucrose gradient.

Formulation

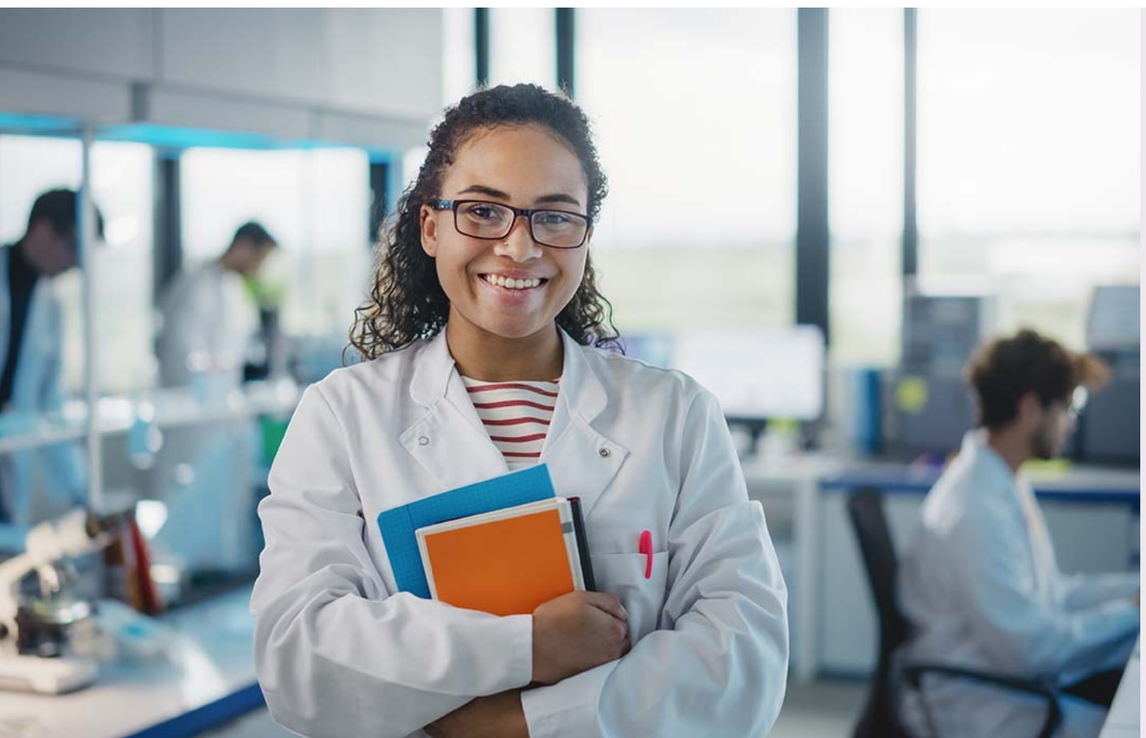
Buffer: Available in Hepes 50mM, pH 7.5 with cryoprotectants. Other buffers or customized formulation can be provided upon request.

Customized Hydrophobic matrix: Customized formulation with specific lipids like PEGylated or biotinylated lipids can be used upon request, as well as targeting molecules.

Storage/Stability: Store at +4°C for up to one week or several months at -80°C. Aliquot for storage.
Do not freeze-thaw after aliquoting.

Use restrictions: For life science research use only.

Available sizes: 10 µg, 50 µg, 100 µg, customized quantity on request.



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Synthelis

T : +33 (0)4 76 54 95 35
E: contact@synthelis.fr
www.synthelis.com