# Ssra-Binding Protein (smpB) Myxococcus Xanthus Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | SsrA-binding protein (smpB), Recombinant Protein |
| **Full Product Name** | Recombinant Myxococcus xanthus SsrA-binding protein (smpB) |
| **Product Gene Name** | smpB recombinant protein |
| **Product Synonym Gene Name** | smpB |
| **Sequence** | MTSGGKSKGV GSEPGVRVIA ENRRARFDYT VDEKVEAGLA LTGSEVKSLR DGIANLSDAY ALPKGDELFL LNANIGSYKA ASFFDHLPTR GRKLLMHRGE IDRWTAKVRE RGYSIIPLVL YFRNGRAKVE LGLCRGKTHE DRRHDIKERE TKREMDRAMR RR |
| **Host** | E Coli or Yeast or Baculovirus or Mammalian Cell |
| **Form/Format** | Lyophilized or liquid (Format to be determined during the manufacturing process) |
| **Purity/Purification** | Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific) |
| **Preparation and Storage** | Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended. |
| **Molecular Weight** | 18,405 Da |
| **Sequence Positions** | 1-162, Full length protein |
| **Tag Information** | This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information. |
| **Sterility** | Sterile filter available upon request. |
| **Endotoxin** | Low endotoxin available upon request. |
| **3D Structure** | ModBase 3D Structure for Q1DAN7 |
| **Species** | Myxococcus xanthus (strain DK 1622) |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Related Product Information for smpB recombinant protein** | MBS1475574 is a recombinant protein targeting smpB. Also known as Recombinant Myxococcus xanthus SsrA-binding protein (smpB). Host: E Coli or Yeast or Baculovirus or Mammalian Cell. |
| **Other Notes** | Small volumes of smpB recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for smpB. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 499871407 |
| **NCBI Accession #** | WP_011552141.1 |
| **UniProt Primary Accession #** | Q1DAN7 |
| **GenBank Nucleotide #** | WP_011552141.1 |
| **NCBI Official Full Name** | SsrA-binding protein |
| **UniProt Protein Name** | SsrA-binding protein |

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| **UniProt Synonym Protein Names** | Small protein B |
| **Protein Family** | SsrA-binding protein |
| **UniProt Gene Name** | smpB |
| **UniProt Comments for smpB** | Required for rescue of stalled ribosomes mediated by trans-translation. Binds to transfer-messenger RNA (tmRNA), required for stable association of tmRNA with ribosomes. tmRNA and SmpB together mimic tRNA shape, replacing the anticodon stem-loop with SmpB. tmRNA is encoded by the ssrA gene; the 2 termini fold to resemble tRNA(Ala) and it encodes a 'tag peptide', a short internal open reading frame. During trans-translation Ala-aminoacylated tmRNA acts like a tRNA, entering the A-site of stalled ribosomes, displacing the stalled mRNA. The ribosome then switches to translate the ORF on the tmRNA; the nascent peptide is terminated with the 'tag peptide' encoded by the tmRNA and targeted for degradation. The ribosome is freed to recommence translation, which seems to be the essential function of trans-translation. |
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