

## Selenoprotein P (SEPP1) Recombinant Protein | SEPP1 recombinant protein

Recombinant Bovine Selenoprotein P (SEPP1)

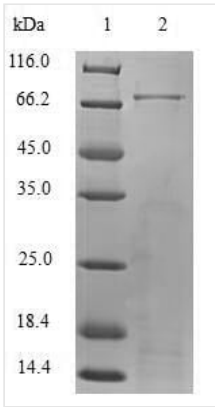
|                               |                                                                 |
|-------------------------------|-----------------------------------------------------------------|
| CATALOG #<br><b>AAA113942</b> | HOST<br><b>E Coli or Yeast or Baculovirus or Mammalian Cell</b> |
|-------------------------------|-----------------------------------------------------------------|

### PRODUCT SYNONYMS

Selenoprotein P (SEPP1); Recombinant Bovine Selenoprotein P (SEPP1); Selenoprotein P; SeP; Selenoprotein P-like protein; SEPP1 recombinant protein

### PRODUCT SPECIFICATIONS

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                    | E Coli or Yeast or Baculovirus or Mammalian Cell                                                                                                                                                                                                                                                                                                                                                                                                     |
| Purity/Purification     | Greater or equal to 85% purity as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                            |
| Form/Format             | Lyophilized or liquid (Format to be determined during the manufacturing process)                                                                                                                                                                                                                                                                                                                                                                     |
| Sequence Positions      | 20-402aa (U59S,U297S,U307S,U338S,U350S,U363S,U365S,U372S,U388S,U390S,U397S,U399S); Full Length of Mature                                                                                                                                                                                                                                                                                                                                             |
| Sequence                | ESQGQSSYCK QPPPWSIKDQ DPMLNSYGSV TVVALLQASS YLCILQASRL EDLRVKLEKE GYSNISYVVV<br>NHQGISSRLK YVHLKNKVSE HIPVYQQEEN QPDVWTLNG NKDDFLIYDR CGRLVYHLGL PYSFLTFTYV<br>EDSIKTVYCE DKCGNCSLKA LEDEDVCKNV FLATKEKTAE ASQRHHHPHP HSHPHPHPHP HPHPHPHPHH<br>GHQLHENAHL SESP KPDT PD TPENPPPSGL HHHHHRHKGP QRQGHSDNCD TPVGSESLQP SLPQKKLSRK<br>RCINQLLSQF PKDSEALSS CCCHCRHLVF EKTGSAITSQ CTEKLPSLCS SQGLLAEENV IESSQSRLLP<br>AASQAAGQQL NPTEASTKSS SKNKAKMSKS PSN |
| Sequence Positions      | 20-402. Full Length of Mature Protein. The original sequence contains 12 'U's ( ) that have already been replaced with 'S' (serine) in the sequence. The 'U' selenocysteine is encoded by UGA and is typically used as a stop codon in prokaryotic cells, which will lead to early termination of translation. Hence, 'U's have mutated with 'S' for protein manufacture.                                                                            |
| Species                 | Bos taurus (Bovine)                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 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.                                                                                                                                                                                                                                                  |



SDS-PAGE

|            |            |            |            |            |
|------------|------------|------------|------------|------------|
| 10         | 20         | 30         | 40         | 50         |
| MWRGLGLALA | LCLLLTGGTE | SQQQSSYCKQ | PPFWSIKDQD | PMLNSYGSVT |
| 60         | 70         | 80         | 90         | 100        |
| VVALLQASUY | LCILQASRLK | DLRVHLEKEG | YSNISYVVVN | HQGISSRKY  |
| 110        | 120        | 130        | 140        | 150        |
| VHLKHKVSEH | IPVYQEEHQ  | PDVWILLNGN | KDDFLIYDRC | GRLVYHLGLP |
| 160        | 170        | 180        | 190        | 200        |
| YSFLTFITYE | DSIKTVYCED | KCGMCSLKAL | EDEDVCKNVF | LATKEKTAEA |
| 210        | 220        | 230        | 240        | 250        |
| SQRHHHPHPH | SHPHHPHPH  | PHPHHPHHG  | HQLHENAHLS | ESPKFDTPDT |
| 260        | 270        | 280        | 290        | 300        |
| PENPPPSGLH | HHHHHHGHPQ | RQGHSDNCDT | PVGESLQPS  | LPQKKLURKR |
| 310        | 320        | 330        | 340        | 350        |
| CINQLLQFF  | KDSESALSSC | OCHCRHLVFE | KTGSAITQC  | TEKLPSLCSU |
| 360        | 370        | 380        | 390        | 400        |
| QGLLAEEENV | ESUURLPPA  | ADQAAQQQLN | PTEASTKUSU | KNKAKURKP  |
| SN         |            |            |            |            |

**Sequence**

The original sequence contains 12 'U's (yellow highlights) UniProt (reference:: (P49907) that have been mutated to 'S' in the sequence for manufacturing the AAA113942 Bovine Selenoprotein P recombinant protein. The 'U' selenocysteine is encoded by UGA and is typically used as a stop codon in prokaryotic cells, which will lead to early termination of translation. Hence, the lab mutates the selenocysteine which is a derivative of serine. Selenocysteine and cysteine as well as serine are highly similar. The selenocysteine can be regarded as either the 'S' atom of cysteine replaced by Se (selenium atom) , or the 'O' atom of serine replaced by Se (selenium atom). Selenocysteine can mutated to either serine or cysteine. The lab has mutated selenocysteine 'U' to serine for protein expression because mutating 'U' to cysteine can lead to the formation of additional disulfide bonds, which can affect the expression and structure of the recombinant protein

ADDITIONAL INFORMATION

|                                                           |                                                                                                                                                             |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Product Information for SEPP1 recombinant protein | Constitutes a major selenium pool in the brain and may play an important role in developing and/or modulating the morphology of neurons and/or glial cells. |
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NCBI AND UNIPROT INFORMATION

|                               |                                                    |
|-------------------------------|----------------------------------------------------|
| NCBI GI #                     | 156631001                                          |
| NCBI GeneID                   | 282066                                             |
| NCBI Accession #              | NP_776884.2                                        |
| NCBI GenBank Nucleotide #     | NM_174459.3                                        |
| UniProt Accession #           | P49907; O19003; Q9N2H6                             |
| Molecular Weight              | 70.1 kDa                                           |
| NCBI Official Full Name       | selenoprotein P                                    |
| NCBI Official Symbol          | SEPP1                                              |
| NCBI Official Synonym Symbols | SELP                                               |
| NCBI Protein Information      | selenoprotein P; seP; selenoprotein P-like protein |
| UniProt Protein Name          | Selenoprotein P                                    |
| UniProt Gene Name             | SEPP1                                              |
| UniProt Synonym Gene Names    | SELP; SeP                                          |
| UniProt Entry Name            | SEPP1_BOVIN                                        |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

