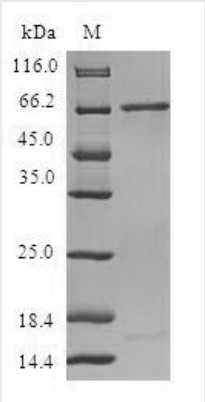
# Protein XRP2 (RP2) Human Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | Protein XRP2 (RP2), Recombinant Protein |
| **Full Product Name** | Recombinant Human Protein XRP2 (RP2) |
| **Product Gene Name** | RP2 recombinant protein |
| **Product Synonym Names** | Protein XRP2 |
| **Sequence** | GCFFSKRRKA DKESRPENEE ERPKQYSWDQ REKVDPKDYM FSGLKDETVG RLPGTVAGQQ FLIQDCENCN IYIFDHSATV TIDDCTNCII FLGPVKGSVF FRNCRDCKCT LACQQFRVRD CRKLEVFLCC ATQPIIESSS NIKFGCFQWY YPELAFQFKD AGLSIFNNTW SNIHDFTPVS GELNWSLLPE DAVVQDYVPI PTTEELKAVR VSTEANRSIV PISRGQRQKS SDESCLVVLF AGDYTIANAR KLIDEMVGKG FFLVQTKEVS MKAEDAQRVF REKAPDFLPL LNKGPVIALE FNGDGAVEVC QLIVNEIFNG TKMFVSESKE TASGDVDSFY NFADIQMGI |
| **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** | 66.5 kDa |
| **Sequence Positions** | 1-350aa; Full Length |
| **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. |
| **OMIM** | gene 312600 |
| **3D Structure** | ModBase 3D Structure for O75695 |
| **Species** | Homo sapiens (Human) |
| **Product Categories/Family for RP2 recombinant protein** | Neuroscience |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Related Product Information for RP2 recombinant protein** | Acts as a GTPase-activating protein (GAP) involved in trafficking between the Golgi and the ciliary membrane. Involved in localization of proteins, such as NPHP3, to the cilium membrane by inducing hydrolysis of GTP ARL3, leading to the release of UNC119 (or UNC119B). Acts as a GTPase-activating protein (GAP) for tubulin in concert with tubulin-specific chaperone C, but does not enhance tubulin heterodimerization. Acts as guanine nucleotide dissociation inhibitor towards ADP-ribosylation factor-like proteins. |
| **Other Notes** | Small volumes of RP2 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. |
| **Searchable Terms for RP2 purchase** | MBS1238040 is a recombinant protein targeting RP2. Also known as Recombinant Human Protein XRP2 (RP2). Host: E Coli or Yeast or Baculovirus or Mammalian Cell. |




**SDS-PAGE of RP2 recombinant protein**

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for RP2. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 170016081 |
| **NCBI GeneID** | 6102 |
| **NCBI Accession #** | NP_008846.2 |
| **UniProt Primary Accession #** | O75695 |
| **UniProt Secondary Accession #** | Q86XJ7; Q9NU67 |
| **UniProt Related Accession #** | O75695 |
| **GenBank Nucleotide #** | NM_006915.2 |
| **NCBI Official Full Name** | protein XRP2 |
| **NCBI Official Synonym Full Names** | retinitis pigmentosa 2 (X-linked recessive) |
| **NCBI Official Symbol** | RP2 |
| **NCBI Official Synonym Symbols** | XRP2; NME10; TBCCD2; NM23-H10; DELXp11.3 |
| **UniProt Protein Name** | Protein XRP2 |
| **Protein Family** | Protein |
| **UniProt Gene Name** | RP2 |
| **UniProt Entry Name** | XRP2_HUMAN |
| **NCBI Protein Information** | protein XRP2 |
| **NCBI Summary for RP2** | The RP2 locus has been implicated as one cause of X-linked retinitis pigmentosa. The predicted gene product shows homology with human cofactor C, a protein involved in the ultimate step of beta-tubulin folding. Progressive retinal degeneration may therefore be due to the accumulation of incorrectly-folded photoreceptor or neuron-specific tubulin isoforms followed by progressive cell death [provided by RefSeq, Jul 2008] |

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| **UniProt Comments for RP2** | RP2: Acts as a GTPase-activating protein (GAP) involved in trafficking between the Golgi and the ciliary membrane. Involved in localization of proteins, such as NPHP3, to the cilium membrane by inducing hydrolysis of GTP ARL3, leading to the release of UNC119 (or UNC119B). Acts as a GTPase-activating protein (GAP) for tubulin in concert with tubulin-specific chaperone C, but does not enhance tubulin heterodimerization. Acts as guanine nucleotide dissociation inhibitor towards ADP-ribosylation factor-like proteins. Defects in RP2 are the cause of retinitis pigmentosa type 2 (RP2); also known as X-linked retinitis pigmentosa 2 (XLRP-2). RP leads to degeneration of retinal photoreceptor cells. Patients typically have night vision blindness and loss of midperipheral visual field. As their condition progresses, they lose their far peripheral visual field and eventually central vision as well. Belongs to the TBCC family.<br><br>Protein type: Chaperone<br><br>Chromosomal Location of Human Ortholog: Xp11.3<br><br>Cellular Component: centriole; Golgi apparatus; cytoplasm; plasma membrane; cytoplasmic vesicle<br><br>Molecular Function: protein binding; GTP binding; unfolded protein binding; nucleoside diphosphate kinase activity; actin binding; ATP binding; GTPase activator activity<br><br>Biological Process: GTP biosynthetic process; protein folding; UTP biosynthetic process; organelle organization and biogenesis; cell morphogenesis; nucleoside diphosphate phosphorylation; cytoskeleton organization and biogenesis; CTP biosynthetic process; protein transport; visual perception; post-Golgi vesicle-mediated transport; post-chaperonin tubulin folding pathway; positive regulation of GTPase activity<br><br>Disease: Retinitis Pigmentosa 2 |
| **Research Articles on RP2** | **1.** The methylation state of CpG sites close to the RP2 core promoter (GAAA)n repeat serves as a proxy measurement of X-chromosome inactivation in human and non-human primates. |
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