# Uncharacterized Protein Yief (yieF) Escherichia Coli Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | Uncharacterized protein yieF (yieF), Recombinant Protein |
| **Full Product Name** | Recombinant Escherichia coli Uncharacterized protein yieF (yieF) |
| **Product Gene Name** | yieF recombinant protein |
| **Sequence** | MSEKLQVVTL LGSLRKGSFN GMVARTLPKI APASMEVNAL PSIADIPLYD ADVQQEEGFP ATVEALAEQI RQADGVVIVT PEYNYSVPGG LKNAIDWLSR LPDQPLAGKP VLIQTSSMGV IGGARCQYHL RQILVFLDAM VMNKPEFMGG VIQNKVDPQT GEVIDQGTLD HLTGQLTAFG EFIQRVKI |
| **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** | 20,376 Da |
| **Sequence Positions** | 1-188, 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 P0AGE6 |
| **Species** | Escherichia coli (strain K12) |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Related Product Information for yieF recombinant protein** | MBS1263058 is a recombinant protein targeting yieF. Also known as Recombinant Escherichia coli Uncharacterized protein yieF (yieF). Host: E Coli or Yeast or Baculovirus or Mammalian Cell. |
| **Other Notes** | Small volumes of yieF 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 yieF. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 16131581 |
| **NCBI GeneID** | 948225 |
| **NCBI Accession #** | NP_418169.1 |
| **UniProt Primary Accession #** | P0AGE6 |
| **UniProt Secondary Accession #** | P31465; Q2M831 |
| **GenBank Nucleotide #** | NC_000913.3 |
| **NCBI Official Full Name** | chromate reductase, Class I, flavoprotein |

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| **NCBI Official Symbol** | chrR |
| **NCBI Official Synonym Symbols** | ECK3706; JW3691; yieF |
| **UniProt Protein Name** | Quinone reductase |
| **UniProt Synonym Protein Names** | Chromate reductase |
| **UniProt Gene Name** | chrR |
| **UniProt Synonym Gene Names** | yieF; CHRR |
| **NCBI Protein Information** | chromate reductase, Class I, flavoprotein |
| **NCBI Summary for yieF** | YieF mutant enzyme Y6 kills HeLa spinner cells. [More information is available at EcoGene: EG11723]. YieF is a flavoprotein containing the FMN cofactor . [More information is available at EcoCyc: EG11723]. |
| **UniProt Comments for yieF** | Catalyzes the reduction of quinones (PubMed:14766567). Acts by simultaneous two-electron transfer, avoiding formation of highly reactive semiquinone intermediates and producing quinols that promote tolerance of H2O2. Quinone reduction is probably the primary biological role of ChrR (). Can also reduce toxic chromate to insoluble and less toxic Cr3+. Catalyzes the transfer of three electrons to Cr6+ producing Cr3+ and one electron to molecular oxygen without producing the toxic Cr5+ species and only producing a minimal amount of reactive oxygen species (ROS). Chromate reduction protects the cell against chromate toxicity, but is likely a secondary activity (PubMed:14766567, PubMed:17088379, PubMed:22558308). Can also reduce potassium ferricyanide, 2,6-dichloroindophenol, V5+, Mo6+, methylene blue, cytochrome c and U6+ (PubMed:14766567, PubMed:17088379). During chromate reduction, is able to use both NAD or NADP equally well (PubMed:14766567). |
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