# Recombinant TRAK1 protein (His tag)

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| **Catalog Number** | 546261 |
| **Synonyms** | 106 kDa O-GlcNAc transferase-interacting protein; Protein Milton |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q9UPV9 |
| **Molecular Weight** | Predictes a molecular mass of 32.91 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band. |

## Product Information

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| **Sequence Region** | 84-353 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >87%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 84-353 aa (Q9UPV9) were fused with 6His tag. |

## Storage & Handling

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| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Trafficking Kinesin-Binding Protein 1 (TRAK1) Fragment (aa 84-353): A high-purity, soluble protein fragment ideal for investigating mitochondrial transport, endosome-to-lysosome trafficking, and protein interactions in neuronal and cellular systems.<br>Trafficking Kinesin-Binding Protein 1 (TRAK1), also known as 106 kDa O-GlcNAc transferase-interacting protein or Protein Milton, is a multifunctional human protein involved in regulating endosome-to-lysosome trafficking, including endocytic pathways for EGF-EGFR complexes and GABA-A receptors. It plays a critical role in mitochondrial motility, where O-glycosylation can inhibit mitochondrial movement, and is essential for recruiting OGT to mitochondrial surfaces in neuronal processes. TRAK1 forms a complex with RHOT to link kinesin motor protein KIF5 to mitochondria, facilitating anterograde mitochondrial transport. The protein localizes to the cytoplasm, nucleus, mitochondria (including mitochondrial membranes), early endosomes, endosomes, and cell cortex, with predominant association to early endosomes dependent on HGS/HRS interaction. Its diverse subcellular distribution underscores its importance in intracellular trafficking and organelle dynamics. |