Recombinant MITF protein (His tag)

Catalog Number	541837
Synonyms	Class E basic helix-loop-helix protein 32; bHLHe32
Species	Human
Expression System	E. coli
Accession	O75030
Molecular Weight	Predictes a molecular mass of 14.96 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 15 kDa band.

Product Information

Sequence Region	296-406
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 296-406 aa (O75030) were fused with 6His tag.

Storage & Handling

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. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Microphthalmia-associated transcription factor (MITF) fragment (aa 296-406) is a high-purity protein designed for studying the bHLH domain's role in melanocyte differentiation, melanosome biogenesis, and cellular response to nutrient availability. This fragment serves as an essential tool for investigating transcription factor mechanisms in development and disease. Microphthalmia-associated transcription factor (MITF) is a master regulator of melanocyte survival, differentiation, and melanosome biogenesis. It binds to M-boxes and E-boxes in promoters of pigmentation genes like tyrosinase (TYR) and tyrosinase-related protein 1 (TYRP1), and is critical for the differentiation of melanocytes, mast cells, osteoclasts, and retinal pigment epithelium. MITF also responds to amino acid availability via MTOR signaling: nutrient-rich conditions lead to phosphorylation and inactivation, while starvation promotes dephosphorylation and nuclear translocation for transcriptional activity. Subcellularly, MITF localizes to the nucleus, cytoplasm, and lysosome membrane, with its distribution regulated by phosphorylation and nutrient status, influencing its stability and function in cellular adaptation.