Recombinant GRHL2 protein (His tag)

Catalog Number	540509
Synonyms	Brother of mammalian grainyhead; Transcription factor CP2-like 3
Species	Human
Expression System	E. coli
Accession	Q6ISB3
Molecular Weight	Predictes a molecular mass of 29.17 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 29 kDa band.

Product Information

Sequence Region	248-485
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 248-485 aa (Q6ISB3) 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 GRHL2 Fragment (248-485) - A high-quality recombinant protein representing a stable and soluble domain of the Grainyhead-like protein 2 homolog, specifically engineered for structural and biochemical research applications. This 238-amino acid fragment maintains optimal properties for experimental studies while capturing essential characteristics of this important transcription factor. Grainyhead-like protein 2 homolog (GRHL2) is a crucial transcription factor that plays fundamental roles in primary neurulation during embryonic development and epithelial morphogenesis. The full-length protein binds directly to the consensus DNA sequence 5'-AACCGGTT-3', functioning as both an activator and repressor on distinct target genes. During embryogenesis, GRHL2 is essential for neural tube closure, particularly in closure 3 at the rostral end of the forebrain, and cooperates with GRHL3 in other closure events. In epithelial development, it serves as a transcriptional activator for apical junctional complex components, up-regulating CLDN3, CLDN4, and RAB25 to enhance tight junction formation and function. GRHL2 also participates in lung epithelial morphogenesis through regulatory interactions with NKX2-1 and influences keratinocyte biology by regulating TERT expression and telomerase activity while inhibiting keratinocyte differentiation through epigenetic mechanisms. The protein localizes primarily to the nucleus but is also detected at cell-cell contact areas and membranes, reflecting its diverse functional roles in cellular organization and gene regulation.