

Recombinant Mouse Grhl2 Protein, Myc/DDK-tagged

Cat. No. Grhl2-3305M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length grainyhead like transcription factor 2 (Grhl2), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Transcription factor playing an important role in primary neurulation and in epithelial development. Binds directly to the consensus DNA sequence 5'-AACCGGTT-3' acting as an activator and repressor on distinct target genes. During embryogenesis, plays unique and cooperative roles with GRHL3 in establishing distinct zones of primary neurulation. Essential for closure 3 (rostral end of the forebrain), functions cooperatively with GRHL3 in closure 2 (forebrain/midbrain boundary) and posterior neuropore closure. Regulates epithelial morphogenesis acting as a target gene-associated transcriptional activator of apical junctional complex components. Up-regulates of CLDN3 and CLDN4, as well as of RAB25, which increases the CLDN4 protein and its localization at tight junctions. Comprises an essential component of the transcriptional machinery that establishes appropriate expression levels of CLDN4 and CDH1 in different types of epithelia. Exhibits functional redundancy with GRHL3 in epidermal morphogenetic events such as eyelid fusion and epidermal wound repair. In lung, forms a regulatory loop with NKX2-1 that coordinates lung epithelial cell morphogenesis and differentiation. In keratinocytes, plays a role in telomerase activation during cellular proliferation, regulates TERT expression by binding to TERT promoter region and inhibiting DNA methylation at the 5'-CpG island, possibly by

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interfering with DNMT1 enzyme activity. In addition, impairs keratinocyte differentiation and epidermal function by inhibiting the expression of genes clustered at the epidermal differentiation complex (EDC) as well as GRHL1 and GRHL3 through epigenetic mechanisms.

Molecular Mass	71.6 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Grhl2 grainyhead like transcription factor 2 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Grhl2
Synonyms	GRHL2; grainyhead-like 2 (<i>Drosophila</i>); grainyhead-like protein 2 homolog; grainyhead like 2; brother of mammalian grainyhead; transcription factor CP2-like 3; BOM; Tcfcp2l3; 0610015A08Rik
Gene ID	252973
mRNA Refseq	NM_026496

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Protein Refseq	NP_080772
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UniProt ID	Q8K5C0
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