Datasheet for ABIN7557165

Forkhead Box K2 Protein (FOXK2) (AA 1-651) (His tag)

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Overview

Quantity:	1 mg
Target:	Forkhead Box K2 (FOXK2)
Protein Characteristics:	AA 1-651
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This Forkhead Box K2 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Purpose:	Custom-made recombinat Foxk2 Protein expressed in mammalien cells.
Sequence:	MAAAAALSGA GAPPAGGGAG GGGSPPGGWA VARLEGREFE YLMKKRSVTI GRNSSQGSVD VSMGHSSFIS RRHLEIFTPP GGGHSAAAPE PAQPRPDAGG DFYLRCLGKN GVFVDGVFQR RGAPPLQLPR VCTFRFPSTN IKITFTALSS EKREKQEAPE SPVKPVQPHI SPLTINIPDT MAHLISPLPS PTGTISAANS CPSSPRGAGS SGYKVGRVMP SDLSLMADNS QPENEKEASG GDSPKDDSKP PYSYAQLIVQ AITMAPDKQL TLNGIYTHIT KNYPYYRTAD KGWQNSIRHN LSLNRYFIKV PRSQEEPGKG SFWRIDPASE SKLVEQAFRK RRPRGVPCFR TPLGPLSSRS APASPNHAGV LSAHSSGAQT PESLSREGSP APLEPEPGAS QPKLAVIQEA RFAQSAPGSP LSSQPVLITV QRQLPPAIKP VTYTVATPVT TPTSQPPVVQ TVHVVHQIPA VSVTSVAGLA PANTYTVAGQ AVVTQAAVLA PPNPEPQENG DHREVRVKVE PVPAISPATL GAASRIIQTS QGTPVQTVTI VQQAPLGQHQ LPIKTVTQNG AHVVPMPTAV HSQVNNAAAS PLHMLATHAS ASASLPTKRQ NGDQAEQPEL KRVKAEDGES IVIALSVDAP PAAVREKAIQ N **Sequence without**

Product Details

	tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	Forkhead Box K2 (FOXK2)
Alternative Name:	Foxk2 (FOXK2 Products)
Background:	Forkhead box protein K2 (Cellular transcription factor ILF-1) (Interleukin enhancer-binding factor 1),FUNCTION: Transcriptional regulator involved in different processes such as glucose metabolism, aerobic glycolysis and autophagy (PubMed:25402684, PubMed:29861159, PubMed:30700909). Recognizes and binds the forkhead DNA sequence motif (5'-GTAAACA-3') and can both act as a transcription activator or repressor, depending on the context (PubMed:25402684, PubMed:29861159, PubMed:30700909). Together with FOXK1, acts as a key regulator of metabolic reprogramming towards aerobic glycolysis, a process in which glucose is converted to lactate in the presence of oxygen (PubMed:30700909). Acts by promoting expression of enzymes for glycolysis (such as hexokinase-2 (HK2), phosphofructokinase, pyruvate kinase (PKLR) and lactate dehydrogenase), while suppressing

Target Details

	further oxidation of pyruvate in the mitochondria by up-regulating pyruvate dehydrogenase kinases PDK1 and PDK4 (PubMed:30700909). Probably plays a role in gluconeogenesis during overnight fasting, when lactate from white adipose tissue and muscle is the main substrate (PubMed:30700909). Together with FOXK1, acts as a negative regulator of autophagy in skeletal muscle: in response to starvation, enters the nucleus, binds the promoters of autophagy genes and represses their expression, preventing proteolysis of skeletal muscle proteins (PubMed:25402684). In addition to the 5'-GTAAACA-3' DNA motif, also binds the 5'-TGANTCA-3' palindromic DNA motif, and co-associates with JUN/AP-1 to activate transcription (By similarity). Also able to bind to a minimal DNA heteroduplex containing a G/T-mismatch with 5'-TRT[G/T]NB-3' sequence (By similarity). Binds to NFAT-like motifs (purine-rich) in the IL2 promoter (By similarity). Positively regulates WNT/beta-catenin signaling by translocating DVL proteins into the nucleus (By similarity). {ECO:0000250|UniProtKB:Q01167, ECO:0000269|PubMed:25402684, ECO:0000269|PubMed:29861159, ECO:0000269|PubMed:30700909}.
Molecular Weight:	68.4 kDa
UniProt:	Q3UCQ1

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months