Datasheet for ABIN3092659

FOXO1 Protein (AA 1-655) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	FOXO1
Protein Characteristics:	AA 1-655
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This FOXO1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Brand:	AliCE®
Sequence:	MAEAPQVVEI DPDFEPLPRP RSCTWPLPRP EFSQSNSATS SPAPSGSAAA NPDAAAGLPS ASAAAVSADF MSNLSLLEES EDFPQAPGSV AAAVAAAAAA AATGGLCGDF QGPEAGCLHP APPQPPPPGP LSQHPPVPPA AAGPLAGQPR KSSSSRRNAW GNLSYADLIT KAIESSAEKR LTLSQIYEWM VKSVPYFKDK GDSNSSAGWK NSIRHNLSLH SKFIRVQNEG TGKSSWWMLN PEGGKSGKSP RRRAASMDNN SKFAKSRSRA AKKKASLQSG QEGAGDSPGS QFSKWPASPG SHSNDDFDNW STFRPRTSSN ASTISGRLSP IMTEQDDLGE GDVHSMVYPP SAAKMASTLP SLSEISNPEN MENLLDNLNL LSSPTSLTVS TQSSPGTMMQ QTPCYSFAPP NTSLNSPSPN YQKYTYGQSS MSPLPQMPIQ TLQDNKSSYG GMSQYNCAPG LLKELLTSDS PPHNDIMTPV DPGVAQPNSR VLGQNVMMGP NSVMSTYGSQ ASHNKMMNPS SHTHPGHAQQ TSAVNGRPLP HTVSTMPHTS GMNRLTQVKT PVQVPLPHPM QMSALGGYSS VSSCNGYGRM GLLHQEKLPS DLDGMFIERL DCDMESIIRN DLMDGDTLDF NFDNVLPNQS FPHSVKTTTH SWVSG

Product Details

	Sequence without tag. The proposed Strep-Tag is based on experience s 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 in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified in one-step affinity chromatography • These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed). • 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. 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. Expression System: • ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. • During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein! Concentration: • The concentration of our recombinant proteins is measured using the absorbance at 280nm. • The protein's absorbance will be measured against its specific reference buffer. • We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.
Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Product Details

Grade:	custom-made

Target Details

Target:	FOXO1
Alternative Name:	FOXO1 (FOXO1 Products)
Background:	Forkhead box protein O1 (Forkhead box protein O1A) (Forkhead in rhabdomyosarcoma),FUNCTION: Transcription factor that is the main target of insulin signaling and regulates metabolic homeostasis in response to oxidative stress (PubMed:10358076, PubMed:12228231, PubMed:15220471, PubMed:15890677, PubMed:18356527, PubMed:19221179, PubMed:20543840, PubMed:21245099). Binds to the insulin response element (IRE) with consensus sequence 5'-TT[G/A]TTTTG-3' and the related Daf-16 family binding element (DBE) with consensus sequence 5'-TT[G/A]TTTAC-3' (PubMed:10358076). Activity suppressed by insulin (PubMed:10358076). Main regulator of redox balance and osteoblast numbers and controls bone mass (By similarity). Orchestrates the endocrine function of the skeleton in regulating glucose metabolism (By similarity). Also acts as a key regulator of chondrogenic commitment of skeletal progenitor cells in response to lipid availability: when lipids levels are low, translocates to the nucleus and promotes expression of SOX9, which induces chondrogenic commitment and suppresses fatty acid oxidation (By similarity). Acts synergistically with ATF4 to suppress osteocalcin/BGLAP activity, increasing glucose levels and triggering glucose intolerance and insulin insensitivity (By similarity). Also suppresses the transcriptional activity of RUNX2, an upstream activator of osteocalcin/BGLAP (By similarity). Acts as an inhibitor of glucose sensing in pancreatic beta cells by acting as a transcription repressor and suppressing expression of PDX1 (By similarity). In hepatocytes, promotes gluconeogenesis by acting together with PPARGC1A and CEBPA to activate the expression of genes such as IGFBP1, G6PC1 and PCK1 (By similarity). Also promotes gluconeogenesis by directly promoting expression of PPARGC1A and G6PC1 (PubMed:17024043). Important regulator of cell death acting downstream of CDK1, PKB/AKT1 and STK4/MST1 (PubMed:18356527, PubMed:19221179). Promotes neural cell death (PubMed:18356527). Mediates insulin action on adipose tissue (By similarity). Regulates the expression of adipogenic genes such as PPARG during preadipocyte differentiation and, adipocyte size and adipose tissue-specific gene expression in response to excessive calorie intake (By similarity). Regulates the transcriptional activity of GADD45A and repair of nitric oxide-damaged DNA in beta-cells (By similarity). Required for the autophagic cell death induction in response to starvation or oxidative stress in a transcription-independent manner (PubMed:20543840). Mediates the function of MLIP in cardiomyocytes hypertrophy and

Target Details

	cardiac remodeling (By similarity). Positive regulator of apoptosis in cardiac smooth muscle cells as a result of its transcriptional activation of pro-apoptotic genes (PubMed:19483080). Regulates endothelial cell (EC) viability and apoptosis in a PPIA/CYPA-dependent manner via transcription of CCL2 and BCL2L11 which are involved in EC chemotaxis and apoptosis (PubMed:31063815). {ECO:0000250|UniProtKB:A4L7N3, ECO:0000250|UniProtKB:G3V7R4, ECO:0000250|UniProtKB:Q9R1E0, ECO:0000269|PubMed:10358076, ECO:0000269|PubMed:12228231, ECO:0000269|PubMed:15220471, ECO:0000269|PubMed:15890677, ECO:0000269|PubMed:17024043, ECO:0000269|PubMed:18356527, ECO:0000269|PubMed:19221179, ECO:0000269|PubMed:19483080, ECO:0000269|PubMed:20543840, ECO:0000269|PubMed:21245099, ECO:0000269|PubMed:31063815}.
Molecular Weight:	69.7 kDa
UniProt:	Q12778
Pathways:	PI3K-Akt Signaling, Cell Division Cycle, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Carbohydrate Homeostasis, Chromatin Binding, Regulation of Carbohydrate Metabolic Process, CXCR4-mediated Signaling Events, BCR Signaling

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.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months