Datasheet for ABIN7556890

SOX9 Protein (AA 1-507) (His tag)

Go to Product page

Overview

Quantity:	1 mg
Target:	SOX9
Protein Characteristics:	AA 1-507
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This SOX9 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat Sox9 Protein expressed in mammalien cells.
Sequence:	MNLLDPFMKM TDEQEKGLSG APSPTMSEDS AGSPCPSGSG SDTENTRPQE NTFPKGEPDL KKESEEDKFP VCIREAVSQV LKGYDWTLVP MPVRVNGSSK NKPHVKRPMN AFMVWAQAAR RKLADQYPHL HNAELSKTLG KLWRLLNESE KRPFVEEAER LRVQHKKDHP DYKYQPRRRK SVKNGQAEAE EATEQTHISP NAIFKALQAD SPHSSSGMSE VHSPGEHSGQ SQGPPTPPTT PKTDVQAGKV DLKREGRPLA EGGRQPPIDF RDVDIGELSS DVISNIETFD VNEFDQYLPP NGHPGVPATH GQVTYTGSYG ISSTAPTPAT AGHVWMSKQQ APPPPPQQPP QAPQAPQAPP QQQAPPQQPQ APQQQQAHTL TTLSSEPGQS QRTHIKTEQL SPSHYSEQQQ HSPQQISYSP FNLPHYSPSY PPITRSQYDY ADHQNSGSYY SHAAGQGSGL YSTFTYMNPA QRPMYTPIAD TSGVPSIPQT HSPQHWEQPV YTQLTRP **Sequence without 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.**

Product Details

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:	SOX9
Alternative Name:	Sox9 (SOX9 Products)
Background:	Transcription factor SOX-9 (mSox9),FUNCTION: Transcription factor that plays a key role in chondrocytes differentiation and skeletal development (PubMed:10319868, PubMed:11371614, PubMed:12414734, PubMed:15132997, PubMed:18415932, PubMed:20940257, PubMed:28263186). Specifically binds the 5'-ACAAAG-3' DNA motif present in enhancers and super-enhancers and promotes expression of genes important for chondrogenesis, including cartilage matrix protein-coding genes COL2A1, COL4A2, COL9A1, COL11A2 and ACAN, SOX5 and SOX6 (PubMed:9119111, PubMed:10805756, PubMed:12414734, PubMed:15694126, PubMed:17525254, PubMed:26146088, PubMed:26150426, PubMed:26910618, PubMed:28263186). Also binds to some promoter regions (PubMed:20940257). Plays a central role in successive steps of chondrocyte differentiation (PubMed:11371614, PubMed:12414734, PubMed:22421045). Absolutely required for precartilaginous condensation, the first step in chondrogenesis during which skeletal progenitors differentiate into prechondrocytes (PubMed:11371614, PubMed:12414734). Together with SOX5 and SOX6, required for overt

	chondrogenesis when condensed prechondrocytes differentiate into early stage chondrocytes, the second step in chondrogenesis (PubMed:11371614, PubMed:12414734, PubMed:15529345). Later, required to direct hypertrophic maturation and block osteoblast differentiation of growth plate chondrocytes: maintains chondrocyte columnar proliferation, delays prehypertrophy and then prevents osteoblastic differentiation of chondrocytes by lowering beta-catenin (CTNNB1) signaling and RUNX2 expression (PubMed:22421045, PubMed:31121357). Also required for chondrocyte hypertrophy, both indirectly, by keeping the lineage fate of chondrocytes, and directly, by remaining present in upper hypertrophic cells and transactivating COL10A1 along with MEF2C (PubMed:21367821, PubMed:22421045). Low lipid levels are the main nutritional determinant for chondrogenic commitment of skeletal progenitor cells: when lipids levels are low, FOXO (FOXO1 and FOXO3) transcription factors promote expression of SOX9, which induces chondrogenic commitment and suppresses fatty acid oxidation (PubMed:32103177). Mechanistically, helps, but is not required, to remove epigenetic signatures of transcriptional repression and deposit active promoter and enhancer marks at chondrocyte-specific genes (PubMed:30021842). Acts in cooperation with the Hedgehog pathway-dependent GLI (GLI1 and GLI3) transcription factors (PubMed:29659575). In addition to cartilage development, also acts as a regulator of proliferation and differentiation in epithelial stem/progenitor cells: involved in the lung epithelium during branching morphogenesis, by balancing proliferation and differentiation and regulating the extracellular matrix (PubMed:24191021). Controls epithelial branching during kidney development (PubMed:21212101). {ECO:0000269|PubMed:10319868, ECO:0000269|PubMed:10805756, ECO:0000269|PubMed:11371614, ECO:0000269|PubMed:12414734, ECO:0000269|PubMed:15132997, ECO:0000269|PubMed:15529345, ECO:0000269|PubMed:15694126, ECO:0000269|PubMed:17525254, ECO:0000269|PubMed:18415932, ECO:0000269|PubMed:20940257, ECO:0000269|PubMed:21212101, ECO:0000269|PubMed:21367821, ECO:0000269|PubMed:22421045, ECO:0000269|PubMed:24191021, ECO:0000269|PubMed:26146088, ECO:0000269|PubMed:26150426, ECO:0000269|PubMed:26910618, ECO:0000269|PubMed:28263186, ECO:0000269|PubMed:29659575, ECO:0000269|PubMed:30021842, ECO:0000269|PubMed:31121357, ECO:0000269|PubMed:32103177, ECO:0000269|PubMed:9119111}.
Molecular Weight:	56.1 kDa
UniProt:	Q04887
Pathways:	EGFR Signaling Pathway, Stem Cell Maintenance, Regulation of Muscle Cell Differentiation,

Target Details

	Tube Formation, Skeletal Muscle Fiber Development

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