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[Marker Primary Antibody]

Rabbit Anti-Myogenin/HRP Conjugated antibody

Catalog Number: SL3550R-HRP

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-Myogenin/HRP
Immunogen:	KLH conjugated synthetic peptide derived from human MYOG/Myogenin
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	WB=1000-10000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Mouse,Rat(predicted:Human,Dog,Pig,Cow,Horse,Rabbit,Sheep,GuineaPig)
Background:	background: Myogenin is a muscle-specific transcription factor that can induce myogenesis in a variety of cell types in tissue culture. It is a member of a large family of proteins related by sequence homology, the helix-loop-helix (HLH) proteins. It is essential for the development of functional skeletal muscle. [provided by RefSeq, Jul 2008] **Function:** Acts as a transcriptional activator that promotes transcription of muscle-specific target genes and plays a role in muscle differentiation, cell cycle exit and muscle atrophy. Essential for the development of functional embryonic skeletal fiber muscle differentiation. However is dispensable for postnatal skeletal muscle growth; phosphorylation by CAMK2G inhibits its transcriptional activity in respons to muscle activity. Required for the recruitment of the FACT complex to muscle-specific promoter regions, thus promoting gene expression initiation. During terminal myoblast differentiation, plays a role as a strong activator of transcription at loci with an open chromatin structure previously initiated by MYOD1.

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

	Together with MYF5 and MYOD1, co-occupies muscle-specific gene promoter core regions during myogenesis. Cooperates also with myocyte-specific enhancer factor MEF2D and BRG1-dependent recruitment of SWI/SNF chromatin-remodeling enzymes to alter chromatin structure at myogenic late gene promoters. Facilitates cell cycle exit during terminal muscle differentiation through the up-regulation of miR-20a expression, which in turn represses genes involved in cell cycle progression. Binds to the E-box containing (E1) promoter region of the miR-20a gene. Plays also a role in preventing reversal of muscle cell differentiation. Contributes to the atrophy-related gene expression in adult denervated muscles. Induces fibroblasts to differentiate into myoblasts. **Subunit:** Homodimer and heterodimer with E12; heterodimerization enhances MYOG DNA-binding and transcriptional activities. Interacts with SMARCA4/BRG1/BAF190A. Interacts (via C-terminus region) with SSRP1 and SUPT16H; the interaction is indicative of an interaction with the FACT complex. **Subcellular Location:** Nucleus. Note=Recruited to late myogenic gene promoter regulatory sequences with SMARCA4/BRG1/BAF190A and SWI/SNF chromatin-remodeling enzymes to promote chromatin-remodeling and transcription initiation in developing embryos. **Post-translational modifications:** Phosphorylated by CAMK2G on threonine and serine amino acids in a muscle activity-dependent manner. Phosphorylation of Thr-87 impairs both DNA-binding and trans-activation functions in contracting muscles. **Similarity:** Contains 1 bHLH (basic helix-loop-helix) domain. **Database links:** **Entrez Gene:** 4656 Human **Entrez Gene:** 17928 Mouse **Entrez Gene:** 497618 Pig **Entrez Gene:** 29148 Rat Omim: 159980 Human **SwissProt:** P15173 Human **SwissProt:** P12979 Mouse **SwissProt:** P49812 Pig **SwissProt:** P20428 Rat **Unigene:** 2830 Human **Unigene:** 16528 Mouse **Unigene:** 9465 Rat Important **Note:** This product as supplied is intended for research use only, not for use in

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	human, therapeutic or diagnostic applications. MYOG is an oxygen-carrying protein in muscle, composed of 153 amino acid residues. It is a small-molecule protein containing heme, homologous to hemoglobin, with an oxygen-binding capacity between that of hemoglobin and cytochrome oxidase, and it helps muscle cells transport oxygen to Mitochondrion. Myogenin plays a decisive role in the process of myogenic differentiation. During the embryonic development of human skeletal muscle, myogenin is expressed at high levels along with the myogenic process. MYOG is mainly metabolized and excreted by the kidney. When there is injury to the myocardium or striated muscle, myoglobin is released into the blood, and serum myoglobin can increase markedly.

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