

Anti-Human HES1, monoclonal (clone R159.4.1B11)

Recommended name: Transcription factor HES-1

Alternative name(s): Class B basic helix-loop-helix protein 39; Hairy and enhancer of split 1; Short name: bHLHb39; hHL

Cat. No. m13-003
Lot. No. 20140908.AM

Quantity: 100 µg
Storage: -20°C



FOR RESEARCH USE ONLY

NOT FOR USE IN HUMANS

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UniProt / NCBI Summary

UniProt

Primary Accession # [Q14469](#)
Secondary Accession # [Q6FHB2](#)

NCBI

GI # [5031763](#)
GeneID [3280](#)
Accession # [NP_005515](#)
GenBank Nucleotide # [NM_005524.3](#)

Molecular Weight 29,541 Da (280 aa)

HES1: Transcriptional repressor of genes that require a bHLH protein for their transcription. May act as a negative regulator of myogenesis by inhibiting the functions of MYOD1 and ASH1. Binds DNA on N-box motifs: 5'-CACNAG-3' with high affinity and on E-box motifs: 5'-CANNTG-3' with low affinity. May play a role in a functional FA core complex response to DNA cross-link damage, being required for the stability and nuclear localization of FA core complex proteins, as well as for FANCD2 monoubiquitination in response to DNA damage.

Cellular Component: nucleus

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Physical Characteristics

Quantity: 100 µg

Concentration: 1.0 mg/ml

Host / Isotype: mouse IgG2a

Clonality: monoclonal; ID R159.4.1B11

Immunogen: recombinant protein corresponding to aa residues 109-153 of human HES1

Purification: affinity-chromatography using Protein G

Formulation: 30% glycerol, 1x PBS, 0.02% sodium azide

Specificity: monospecific for human HES1; see microarray analysis below

Reactivity: human

Stability/Storage: 12 months long term: -20°C; short term: 4°C; avoid freeze-thaw cycles; aliquot as required

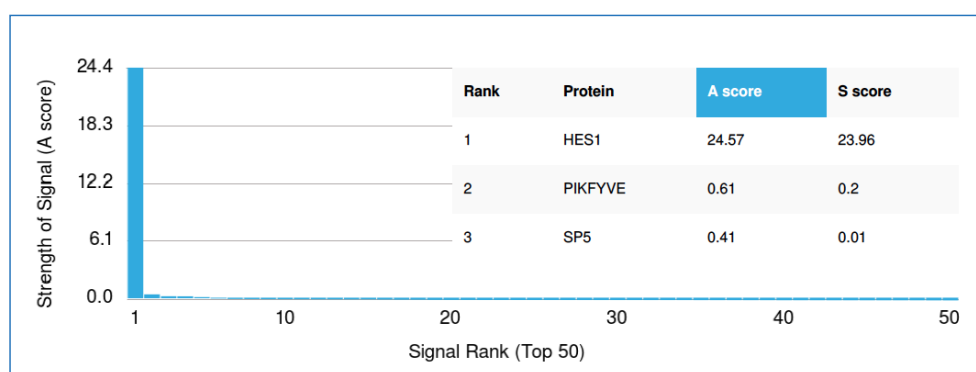
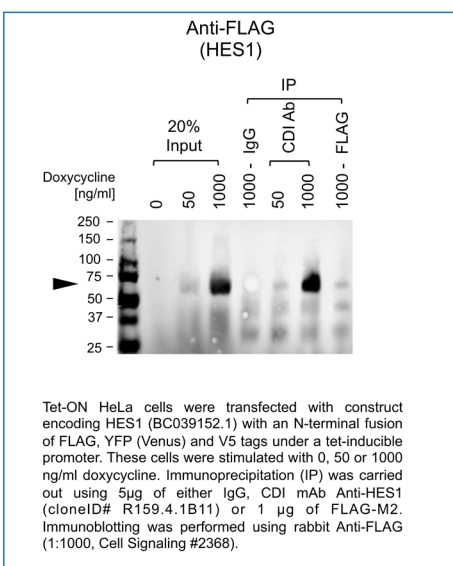
Handling Notes: small volumes of antibody may occasionally become entrapped in the seal of the product vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container cap.

Tested Research Applications

Immunoprecipitation: recommended; see below.

ChIP-Seq: recommended; see page 2

Quality Assurance



Specificity Analysis with HuProt™ Human Proteome Microarray: Anti Human HES1 (clone R159.4.1B11) was analyzed using the CDI HuProt™ Human Proteome Microarray.

For more information on A/S scores and how they relate to specificity, see page 2.

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Continued from page 1.

Selected References:

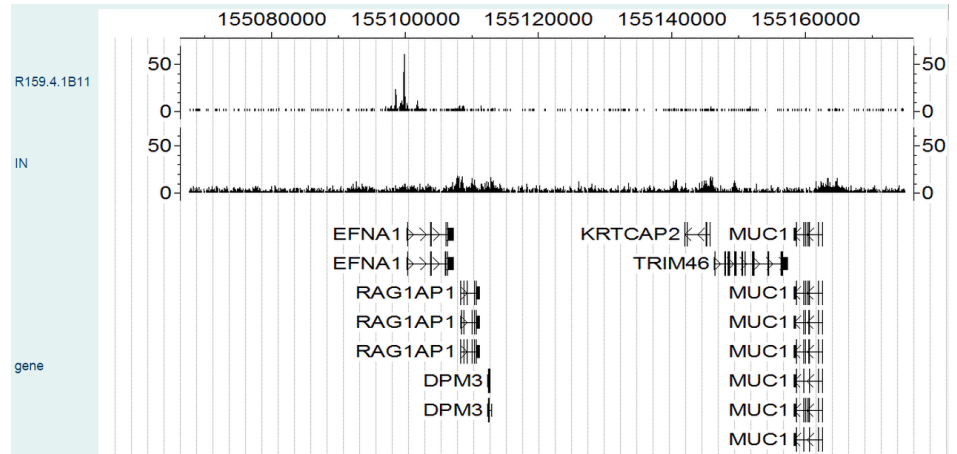
Tremblay CS, Huang FF, Habi O, Huard CC, Godin C, Lévesque G, Carreau M (2008) HES1 is a novel interactor of the Fanconi anemia core complex. *Blood* **112**:2062-70. [[PubMed](#)]

Takata T, Ishikawa F (2003) Human Sir2-related protein SIRT1 associates with the bHLH repressors HES1 and HEY2 and is involved in HES1- and HEY2-mediated transcriptional repression. *Biochem Biophys Res Commun* **301**:250-7. [[PubMed](#)]

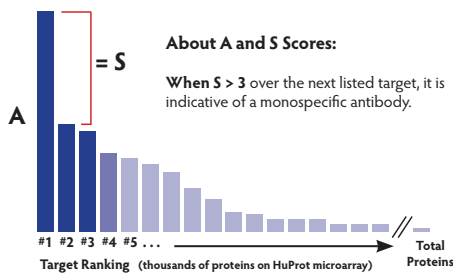
Das BC, Tyagi A, Vishnoi K, Mahata S, Verma G, Srivastava Y, Masaldan S, Roy BG, Bharti AC (2016) Cervical cancer stem cells selectively overexpress HPV oncoprotein E6 that controls stemness and self renewal through upregulation of HES1. *Clin Cancer Res* Mar **17**. pii: [clin-canres.2574.2015](#). [[PubMed](#)]

Tested Research Applications

ChIP-Seq: Recommended



The ChIP was performed with chromatin from 10 million HCT116 cells or HeLa cells and 3 µg of Anti-HES1 (cloneID # R159.4.1B11) antibody. The ChIP DNA was sequenced on an Illumina HiSeq platform and read counts were calculated at consecutive 100 bp bins across the human genome hg19. Normalized read-count levels for ChIP-seq of HES1 (R159.4.1B11) and control (IN) around the EFNA1 loci are displayed in the CisGenome browser.



Statistical Analysis: Thousands of GenePix data points (from the microarray) are analyzed in terms of signal strength and ranked accordingly.

SUMMARY: The A-score indicates the number of standard deviations above background seen for the mean signal bound by the target antigen. The S-score represents the difference between the A-score of the target antigen and the next best hit on the array. S-scores **greater than 3 standard deviations over the next listed target** are deemed statistically significant and indicate **highly specific antibodies**. [More info at \[cdi-lab.com/HighSpec.html\]\(http://cdi-lab.com/HighSpec.html\)](#)

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