

# HDAC10 (H-56): sc-134995

## BACKGROUND

Histone deacetylases (HDACs) play an important role in the modification of chromatin structure and thus in the suppression and activation of transcription and cellular differentiation. There are 11 members in the HDAC family that are divided into 4 classes. Class I HDACs represent homologs of the yeast histone deacetylase Rpd3, class II HDACs share strong homology with the yeast histone deacetylase Hda1, class III HDACs are closely related to the yeast Sir2 protein and class IV HDACs comprise histone deacetylase 11 (HDAC11)-related enzymes. HDAC10, also known as HD10, is a member of the class II HDACs. It contains an N-terminal Hda1p-related catalytic domain and a unique C-terminal leucine-rich domain. HDAC10 is ubiquitously expressed and can shuttle between the cytoplasm and nucleus in response to cellular signals. It is able to repress transcription and, like other class II HDAC members, its enzymatic activity is inhibited by Trichostatin A (TSA).

## REFERENCES

1. Tong, J.J., et al. 2002. Identification of HDAC10, a novel class II human histone deacetylase containing a leucine-rich domain. *Nucleic Acids Res.* 30: 1114-1123.
2. Guardiola, A.R. and Yao, T.P. 2002. Molecular cloning and characterization of a novel histone deacetylase HDAC10. *J. Biol. Chem.* 277: 3350-3356.
3. Fischer, D.D., et al. 2002. Isolation and characterization of a novel class II histone deacetylase, HDAC10. *J. Biol. Chem.* 277: 6656-6666.
4. Matsuyama, A., et al. 2002. *In vivo* destabilization of dynamic microtubules by HDAC6-mediated deacetylation. *EMBO J.* 21: 6820-6831.
5. Brush, M.H., et al. 2004. Deacetylase inhibitors disrupt cellular complexes containing protein phosphatases and deacetylases. *J. Biol. Chem.* 279: 7685-7691.
6. Acharya, M.R., et al. 2005. Rational development of histone deacetylase inhibitors as anticancer agents: a review. *Mol. Pharmacol.* 68: 917-932.
7. Hess-Stumpp, H. 2005. Histone deacetylase inhibitors and cancer: from cell biology to the clinic. *Eur. J. Cell Biol.* 84: 109-121.

## CHROMOSOMAL LOCATION

Genetic locus: HDAC10 (human) mapping to 22q13.33; Hdac10 (mouse) mapping to 15 E3.

## SOURCE

HDAC10 (H-56) is a rabbit polyclonal antibody raised against amino acids 61-116 mapping near the N-terminus of HDAC10 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

HDAC10 (H-56) is recommended for detection of histone deacetylase 10 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HDAC10 (H-56) is also recommended for detection of histone deacetylase 10 in additional species, including equine.

Suitable for use as control antibody for HDAC10 siRNA (h): sc-72307, HDAC10 siRNA (m): sc-72308, HDAC10 shRNA Plasmid (h): sc-72307-SH, HDAC10 shRNA Plasmid (m): sc-72308-SH, HDAC10 shRNA (h) Lentiviral Particles: sc-72307-V and HDAC10 shRNA (m) Lentiviral Particles: sc-72308-V.

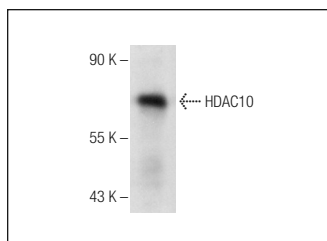
Molecular Weight of HDAC10: 70 kDa.

Positive Controls: A-375 cell lysate: sc-3811.

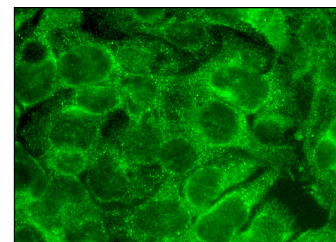
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



HDAC10 (H-56): sc-134995. Western blot analysis of HDAC10 expression in mouse small intestine tissue extract.



HDAC10 (H-56): sc-134995. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear and cytoplasmic localization.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **HDAC10 (E-2): sc-393417** or **HDAC10 (F-4): sc-376121**, our highly recommended monoclonal alternatives to HDAC10 (H-56).