SANTA CRUZ BIOTECHNOLOGY, INC.

HDC (H-245): sc-68940

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Histamine is a multifunctional biogenic amine with relevant roles in intercellular communication, inflammatory processes and highly prevalent pathologies. Specifically, it plays a role in the central nervous, gastrointestinal, respiratory and immune systems. Histamine biogenesis relies on the rate-limiting enzyme histidine decarboxylase (HDC), which is regulated by post-translational processing.

REFERENCES

1. Fleming, J.V. and Wang, T.C. 2003. The production of 53-55 kDa isoforms is not required for rat L-histidine decarboxylase activity. J. Biol. Chem. 278: 686-694.
2. Tanaka, S. 2003. Physiological function mediated by histamine synthesis. Yakugaku Zasshi 123: 547-559.
3. Zhao, C.M., Chen, D., Dornonville de la Cour, C., Lindqvist, A., Persson, L. and Hakanson, R. 2004. Histamine and histidine decarboxylase are hallmark features of ECL cells but not G cells in rat stomach. Regul. Pept. 118: 61-66.
4. Fleming, J.V., Fajardo, I., Langlois, M.R., Sanchez-Jiménez, F. and Wang, T.C. 2004. The C-terminus of rat L-histidine decarboxylase specifically inhibits enzymic activity and disrupts pyridoxal phosphate-dependent interactions with L-histidine substrate analogues. Biochem. J. 381: 769-778.
5. Moya-Garcia, A.A., Medina, M.A. and Sánchez-Jiménez F. 2005. Mammalian histidine decarboxylase: from structure to function. Bioessays 27: 57-63.
6. Csaba, G., Kovács, P., Buzás, E., Mazán, M. and Pállinger, E. 2007. Serotonin content is elevated in the immune cells of histidine decarboxylase gene knock-out (HDCKO) mice. Focus on mast cells. Inflamm. Res. 56: 89-92.
7. Furuta, K., Nakayama, K., Sugimoto, Y., Ichikawa, A. and Tanaka, S. 2007. Activation of histidine decarboxylase through post-translational cleavage by caspase-9 in a mouse mastocytoma P-815. J. Biol. Chem. 282: 13438-13446.
8. Wu, F., Yu, J. and Gehring, H. 2008. Inhibitory and structural studies of novel coenzyme-substrate analogs of human histidine decarboxylase. FASEB J. 22: 890-897.
9. Moya-García, A.A., Ruiz-Pernía, J., Martí, S., Sánchez-Jiménez, F. and Tunon, I. 2008. Analysis of the decarboxylation step in mammalian histidine decarboxylase. A computational study. J. Biol. Chem. 283: 12393-12401.

CHROMOSOMAL LOCATION

Genetic locus: HDC (human) mapping to 15q21.2; Hdc (mouse) mapping to 2 F1.

SOURCE

HDC (H-245) is a rabbit polyclonal antibody raised against amino acids 418-662 mapping at the C-terminus of HDC 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.

APPLICATIONS

HDC (H-245) is recommended for detection of HDC of mouse, rat and human 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).

HDC (H-245) is also recommended for detection of HDC in additional species, including canine.

Suitable for use as control antibody for HDC siRNA (h): sc-45375, HDC siRNA (m): sc-45376, HDC shRNA Plasmid (h): sc-45375-SH, HDC shRNA Plasmid (m): sc-45376-SH, HDC shRNA (h) Lentiviral Particles: sc-45375-V and HDC shRNA (m) Lentiviral Particles: sc-45376-V.

Molecular Weight of HDC: 74 kDa.

Positive Controls: A-10 cell lysate: sc-3806 or HEL 92.1.7 cell lysate: sc-2270.

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.

SELECT PRODUCT CITATIONS

1. Chatterjee, V. and Gashev, A.A. 2012. Aging-associated shifts in functional status of mast cells located by adult and aged mesenteric lymphatic vessels. Am. J. Physiol. Heart Circ. Physiol. 303: H693-H702.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.