SANTA CRUZ BIOTECHNOLOGY, INC.

Neurogenin 3 (H-80): sc-25654

BACKGROUND

The neurogenin family of proteins belongs to the basic helix-loop-helix (bHLH) superfamily and consists of neurogenin 1, neurogenin 2 and neurogenin 3 (also designated ngn3). bHLH members are transcriptional regulators that determine cell fate. Neurogenin3 (also designated ngn3) is expressed in discrete regions of developing neurons and in the embryonic pancreatic islets of Langerhans. HNF-6 (hepatocyte nuclear factor 6) acts as a positive regulator of neurogenin3 by binding to and stimulating the nuerogenin gene promoter. Neurogenin3 is involved in the intial differentiation of the four islets cell types; while, a network of transcription factors, including Hlxb9, Isl1, NeuroD, Nkx2.2, Nkx6.4, Pax4, Pax6, Pdx1 and Mash1, are required for final differentiation. Neurogenin3 acts upstream of neuroD in a bHLB cascade. Neurogenin3 activates the expression of neuroD at the onset of islet cell differentiation through box sequences E1 and E3 in the neuroD promoter.

REFERENCES

1. Huang, H.P., et al. 2000. Regulation of the pancreatic islet-specific gene BETA2 (neuroD) by neurogenin 3. Mol. Cell. Biol. 20: 3292-3307.
2. Gradwohl, G., et al. 2000. Neurogenin3 is required for the development of the four endocrine cell lineages of the pancreas. Proc. Natl. Acad. Sci. USA 97: 1607-1611.
3. Schwitzgebel, V.M., et al. 2000. Expression of neurogenin3 reveals an islet cell precursor population in the pancreas. Development 127: 3533-3542.
4. Jensen, J., et al. 2000. Independent development of pancreatic α- and β-cells from Neurogenin 3-expressing precursors: a role for the notch pathway in repression of premature differentiation. Diabetes 49: 163-176.
5. Jacquemin, P., et al. 2000. Transcription factor hepatocyte nuclear factor 6 regulates pancreatic endocrine cell differentiation and controls expression of the proendocrine gene ngn3. Mol. Cell. Biol. 20: 4445-4454.

CHROMOSOMAL LOCATION

Genetic locus: NEUROG3 (human) mapping to 10q22.1.

SOURCE

Neurogenin 3 (H-80) is a rabbit polyclonal antibody raised against amino acids 1-80 of Neurogenin 3 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.

RESEARCH USE

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

APPLICATIONS

Neurogenin 3 (H-80) is recommended for detection of Neurogenin 3 of 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).

Suitable for use as control antibody for Neurogenin 3 siRNA (h): sc-42079, Neurogenin 3 shRNA Plasmid (h): sc-42079-SH and Neurogenin 3 shRNA (h) Lentiviral Particles: sc-42079-V.

Molecular Weight of Neurogenin 3: 27 kDa.

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.

PROTOCOLS

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