

Neurogenin 3 (S-16): sc-23832

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. Neurogenin 3 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 Neurogenin 3 by binding to and stimulating the neurogenin gene promoter. Neurogenin 3 is involved in the initial differentiation of the four islet cell types, while a network of transcription factors, including Hlx9, Isl1, Neuro D, Nkx-2.2, Nkx-6.4, Pax-4, Pax-6, PDX-1 and Mash1, are required for final differentiation. Neurogenin 3 acts upstream of Neuro D in a bHLH cascade. Neurogenin 3 activates the expression of Neuro D at the onset of islet cell differentiation through box sequences E1 and E3 in the Neuro D promoter.

REFERENCES

- Huang, H.P., et al. 2000. Regulation of the pancreatic islet-specific gene BETA2 (neuroD) by neurogenin 3. *Mol. Cell. Biol.* 20: 3292-3307.
- Gradwohl, G., et al. 2000. Neurogenin 3 is required for the development of the four endocrine cell lineages of the pancreas. *Proc. Natl. Acad. Sci. USA* 97: 1607-1611.
- Schwitzgebel, V.M., et al. 2000. Expression of Neurogenin 3 reveals an islet cell precursor population in the pancreas. *Development* 127: 3533-3542.
- 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.
- 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 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Neurogenin 3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-23832 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Neurogenin 3 (S-16) 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 μ g per 100-500 μ g 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).

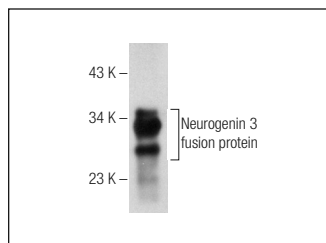
Suitable for use as control antibody for Neurogenin 3 siRNA (h): sc-42079, Neurogenin 3 shRNA Plasmid (h): sc-42079-SH and Neurogenin 3 shRNA (h) Lentiviral Particles: sc-42079-V.

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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Neurogenin 3 (S-16): sc-23832. Western blot analysis of human recombinant Neurogenin 3 fusion protein.

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.



Try **Neurogenin 3 (E-8): sc-376607** or **Neurogenin 3 (7): sc-136002**, our highly recommended monoclonal alternatives to Neurogenin 3 (S-16).