

Neurogenin 3 (M-80): sc-25655

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 neurogenin gene promoter. Neurogenin3 is involved in the initial differentiation of the four islet cell types; while, a network of transcription factors, including Hlx9, Isl1, NeuroD, Nkx2.2, Nkx6.4, Pax4, Pax6, Pdx1 and Mash1, are required for final differentiation. Neurogenin3 acts upstream of neuroD in a bHLH 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

- 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. Neurogenin3 is required for the development of the four endocrine cell lineages of the pancreas. *Proc. Natl. Acad. Sci. USA* 97: 1607-1611.

CHROMOSOMAL LOCATION

Genetic locus: Neurog3 (mouse) mapping to 10 B4.

SOURCE

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

PRODUCT

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

APPLICATIONS

Neurogenin 3 (M-80) is recommended for detection of Neurogenin 3 of 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), immunohistochemistry (including paraffin-embedded sections) (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 (m): sc-42080, Neurogenin 3 shRNA Plasmid (m): sc-42080-SH and Neurogenin 3 shRNA (m) Lentiviral Particles: sc-42080-V.

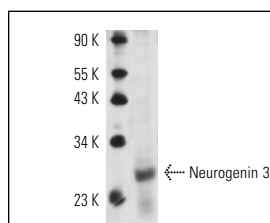
Molecular Weight of Neurogenin 3: 27 kDa.

Positive Controls: mouse pancreas extract: sc-364244 or PC-12 cell lysate: sc-2250.

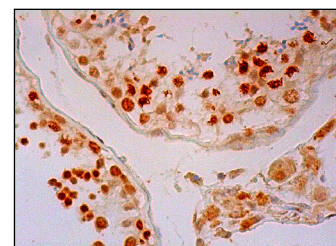
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Neurogenin 3 (M-80): sc-25655. Western blot analysis of Neurogenin 3 expression in mouse pancreas tissue extract.



Neurogenin 3 (M-80): sc-25655. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

- Laronda, M.M., et al. 2011. Sox3 functions in a cell-autonomous manner to regulate spermatogonial differentiation in mice. *Endocrinology* 152: 1606-1615.
- Kubo, A., et al. 2011. Pdx1 and Ngn3 overexpression enhances pancreatic differentiation of mouse ES cell-derived endoderm population. *PLoS ONE* 6: e24058.

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.

MONOS
Satisfaction
Guaranteed

Try **Neurogenin 3 (C-7): sc-374442** or **Neurogenin 3 (7): sc-136002**, our highly recommended monoclonal alternatives to Neurogenin 3 (M-80).