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NeuroD1 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2021a

Specification

NeuroD1 Antibody (N-term) - Product Information

Application	**IF, IHC-P, WB,E**
Primary Accession	Q13562
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**39920**
Antigen Region	**15-45**

NeuroD1 Antibody (N-term) - Additional Information

Gene ID 4760

Other Names
Neurogenic differentiation factor 1, NeuroD, NeuroD1, Class A basic helix-loop-helix protein 3, bHLHa3, NEUROD1, BHLHA3, NEUROD

Target/Specificity
This NeuroD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 15-45 amino acids from the N-terminal region of human NeuroD1.

Dilution
IF~~1:100
IHC-P~~1:50~100
WB~~1:1000
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
NeuroD1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

NeuroD1 Antibody (N-term) - Protein Information

Name NEUROD1

Synonyms BHLHA3, NEUROD

Function Acts as a transcriptional activator: mediates transcriptional activation by binding to E box-containing promoter consensus core sequences 5'-CANNTG-3'. Associates with the p300/CBP transcription coactivator complex to stimulate transcription of the secretin gene as well as the gene encoding the cyclin-dependent kinase inhibitor CDKN1A. Contributes to the regulation of several cell differentiation pathways, like those that promote the formation of early retinal ganglion cells, inner ear sensory neurons, granule cells forming either the cerebellum or the dentate gyrus cell layer of the hippocampus, endocrine islet cells of the pancreas and enteroendocrine cells of the small intestine. Together with PAX6 or SIX3, is required for the regulation of amacrine cell fate specification. Also required for dendrite morphogenesis and maintenance in the cerebellar cortex. Associates with chromatin to enhancer regulatory elements in genes encoding key transcriptional regulators of neurogenesis (By similarity).

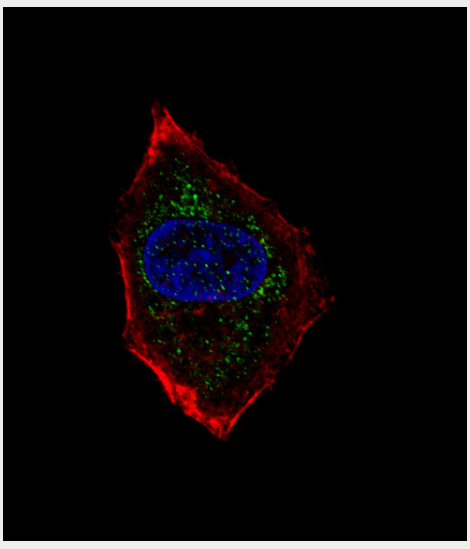
Cellular Location
Cytoplasm. Nucleus {ECO:0000255|PROSITE-ProRule:PRU00981, ECO:0000269|PubMed:14752053} Note=In pancreatic islet cells, shuttles to the nucleus in response to glucose stimulation (By similarity). Colocalizes with NR0B2 in the nucleus.

NeuroD1 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NeuroD1 Antibody (N-term) - Images



Fluorescent confocal image of HepG2 cell stained with hNeuroD1-Q30(Cat#AP2021a). HepG2 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with hNeuroD1-Q30 primary antibody (1:25, 1 h at 37℃). For secondary antibody, Alexa

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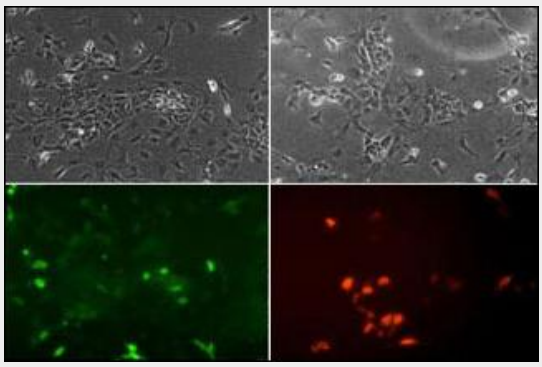
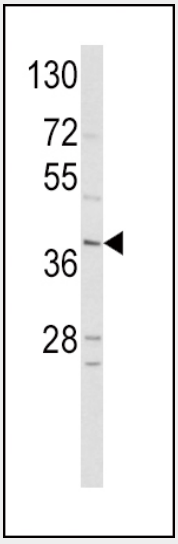
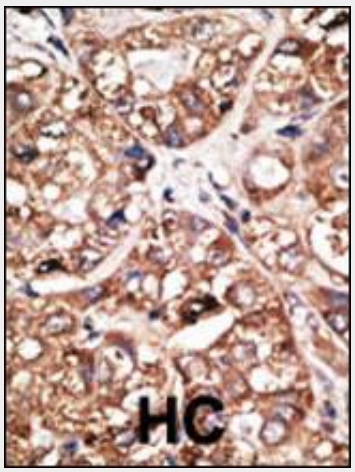
Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37℃).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37℃). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min).hNeuroD1-Q30 immunoreactivity is localized to vesicles significantly.



ES cells were transiently transfected with flag-tagged mouse NeuroD1 (tagged on N-term).Fixed 24h post transfection.Stained for flag tag (red) to check that some cells express protein. Most protein was in nucleus but some was cytoplasmic. Stained with NeuroD1 N-term antibodies at 1:100. NeuroD1 N-term antibody showed strong and clear staining with similar pattern to the flag staining.(Supplied by Sally Lowell,Edinburgh University)



Western blot analysis of hNeuroD1-Q30 (Cat. #AP2021a) in HepG2 cell line lysates (35ug/lane). NEUROD1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

NeuroD1 Antibody (N-term) - Background

NeuroD1 acts as a differentiation factor during neurogenesis. They are expressed transiently in a subset of neurons in the central and peripheral nervous systems at the time of their terminal differentiation. NeuroD1 is a basic helix-loop-helix (bHLH) protein contain 1 bHLH domain. NeuroD1 is a transcriptional activator, for efficient DNA binding it requires dimerization with another bHLH protein. It was reported that NeuroD1 involves heterodimerization with the ubiquitous bHLH protein E47, and regulates insulin gene expression by binding to a critical E-box motif on the insulin promoter. Defects in NEUROD1 causes maturity onset diabetes of the young type VI. MODY6 is a form of non-insulin-dependent diabetes mellitus (NIDDM) characterized by an autosomal dominant mode of inheritance, onset during young adulthood and a primary defect in insulin secretion.

NeuroD1 Antibody (N-term) - References

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Cinek, O., et al., Diabetes Res. Clin. Pract. 60(1):49-56 (2003).
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