Product Specification Sheet

Neurogenic differentiation factor 1 antibody

□ Cat # NEUD1-A Rabbit anti-Mouse Neurogenic differentiation factor 1 (NeuroD1) antibody **SIZE**: 100 µg

Neurogenic differentiation 1 (NeuroD1), also called β2, is a transcriptional activator that associates with p300 transcription co-activator protein to promote the expression of many important 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. It has been demonstrated to bind to the insulin gene E-box. NeuroD1 is expressed in developing brain and pancreas as well as in differentiating neurons in both the CNS and PNS systems. Efficient DNA binding requires dimerization with another basic helix-loop-helix (bHLH) protein. NeuroD1 is found to convert reactive glial cells into functional neurons in the mouse brain in vivo. Defects in NEUROD1 are a cause of maturity onset diabetes of the young type VI (MODY6). MODY6 is a form of non-insulin-dependent diabetes mellitus characterized by an autosomal dominant mode of inheritance, onset during young adulthood and a primary defect in insulin secretion.

Source of Antigen or Antibodies

Uniprot: Q60867

Host: Rabbit

Clonality: Polyclonal

Purification: Ammonium sulfate followed by peptide affinity purification

Immunogen: Mix of 2 synthetic peptides within region 1-100 of Mouse Neurogenic differentiation factor 1

Species Reactivity: Mouse, Rat, and Human

Cross reactivity: The peptide used as an immunogen exhibits 100% homology with Rat and Chinese Hamster. 94% Human, Cat, Horse and Monkey. 88% Bovine, Pig, Camel, Goat, and Sheep.

Subcellular Location: Nucleus. Cytoplasm.

Alternative names: NeuroD1, Beta-cell E-box transcriptional activator 2

Recommended Secondary Antibody: Goat anti-Rabbit IgG-HRP (**ADI cat#20320)**

Negative Control: Non-immune Rabbit IgG (**ADI cat# 20009-1**).

Form & Storage of Antibodies

□**Affinity pure IgG Solution**
Concentration: 0.5 mg/ml Volume: 200 µl
Supplied in PBS, pH 7.4 + 0.1% BSA
The antibody can be made available carrier free or conjugated to HRP, Biotin, or FITC on request

□ **Lyophilized powder**
Reconstitute powder in 200 µl distilled water to 0.5 mg/ml

Storage:

Short-term: 4°C for 1 month

Long-term: at –20°C or below in suitable aliquots after reconstitution for 1 year. Do not expose to multiple free/thaw cycles or store working, diluted solutions.

Recommended Usage

Western Blotting: 0.5-2.0 µg/ml
Predicted band size: 40 kDa
Observed band size: ~50-55 kDa.

IHC-P: 1-10 µg/ml. QC tested using 10 mM sodium citrate, pH 6 antigen retrieval. The antibody may work better with other retrieval solutions or no retrieval.

The above concentrations are a *suggestion*, user's must optimize their assay based on their own conditions. The antibody may work in other applications such as Immunocytochemistry or IP. These methods have not been tested by ADI.

This product is for In vitro research use only.

Related materials available from ADI

Catalog#	Description
PCNA11-A	Rabbit anti-Human Proliferating Cell Nuclear Antigen (PCNA) antibody
BRDU11-A	Mouse anti-BrdU monoconal antibody
HKI67-A	Rabbit anti-Human Proliferation marker Ki-67
GFAP11-A	Rabbit anti-Mouse phospho Glial fibrillary acidic protein (S266) antibody
GFAP21-A	Rabbit anti-Mouse Glial fibrillary acidic protein (GFAP) antibody
NEUD1-A	191701IA

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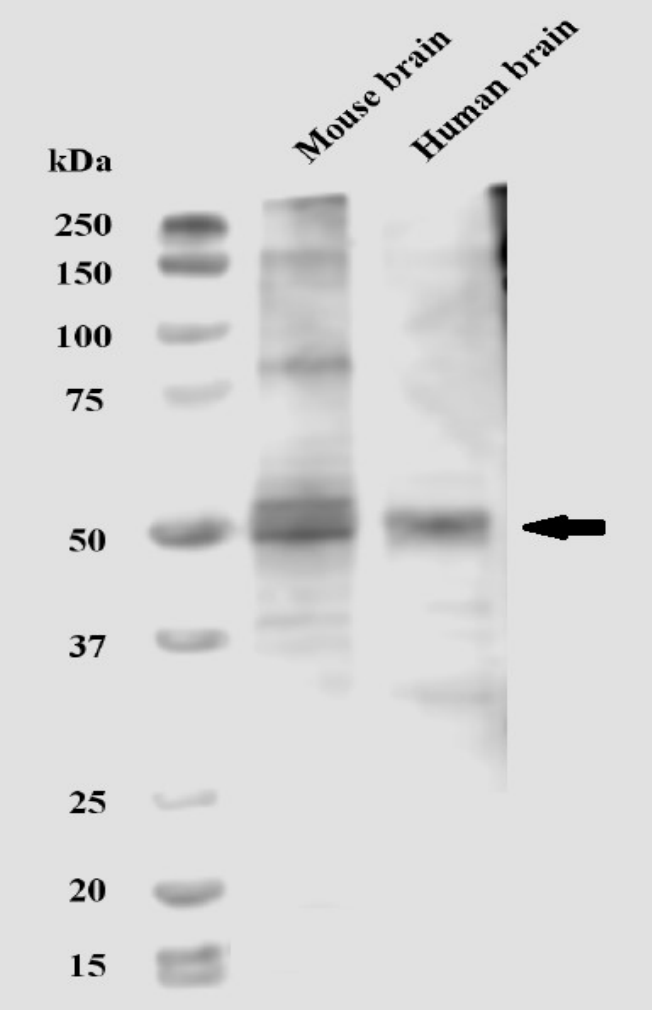

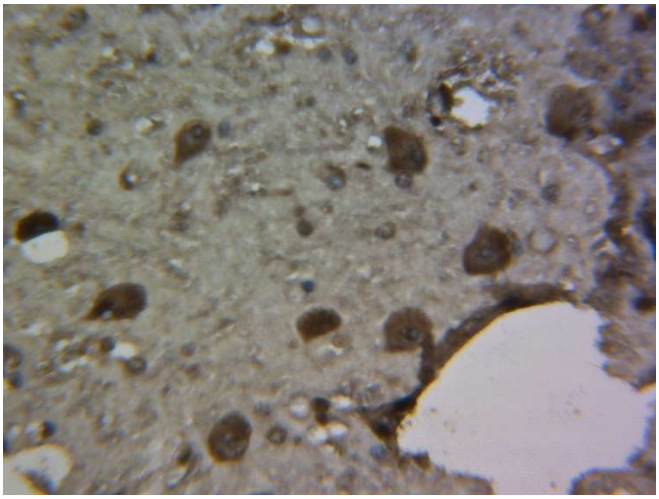

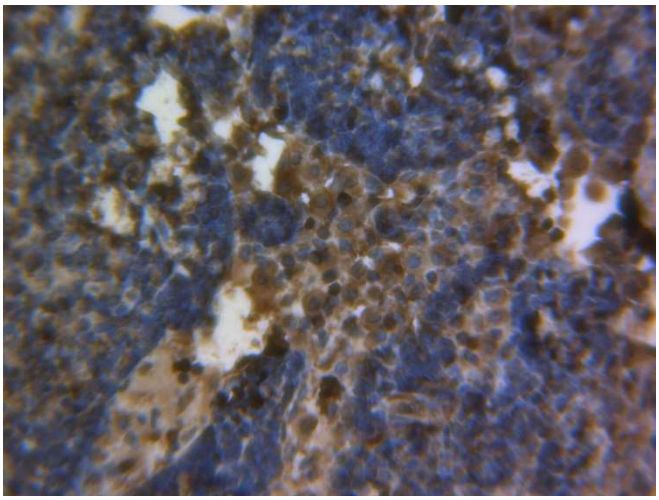

Western blotting: 20 µg of a Mouse and Human whole brain lysate was heated for 5 minutes at 95ºC then electrophoretically separated on a 10% SDS-PAGE gel. The gel was run at 100V for ~1 hour and 30 minutes then transferred to a 0.2 µm nitrocellulose membrane using the 'Mixed MW' settings on a Transblot Turbo (Biorad). The blot was blocked for 1 hour at room temperature with Fish plasma (Aquablock, EastCoastBio). **MMP9-A** was diluted with TBST+0.1% BSA to 1 ug/ml and incubated overnight at 4ºC. The blot was washed with TBS-T 3 times for 5 minutes each. Goat anti-rabbit IgG HRP (**ADI cat#20320**) was diluted in TBST+0.1% BSA at a 1:10,000 dilution (50 ng/ml) then incubated for 1 hour at room temperature. The blot was washed 3 times with TBS-T for 5 minutes each. The blot was then incubated with ADI Femto ECL substrate (**ADI cat#80210**) for 5 minutes and imaged on a CCD imaging system (C-DiGit, LI-COR).

Immunohistochemistry: Human brain and Rat pancreas slides were heated for 20 minutes at 60ºC then deparrafinized. Antigen retrieval was performed for 10 minutes at 95ºC in a microwave using 10 mM pH 6, sodium citrate buffer. The slide was then cooled for 20 minutes at room temperature before being blocked for 30 minutes with 2.5% normal goat serum. **NEUD1-A** was diluted to 5 µg/ml in TBST+0.1% BSA and incubated overnight at 4ºC. The slides were then washed twice and incubated with 3% hydrogen peroxide for 10 minutes to quench endogenous peroxidase. The slide was washed then incubated with Goat anti-Rabbit IgG HRP polymer detection reagent for 30 minutes at room temperature. The slide was washed twice, incubated with DAB for 3 minutes, washed with distilled water, then counterstained for 1 minute with Gil's II Hematoxylin before being cover-slipped.

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