abcam

ab60704

Anti-NeuroD1 antibody [3H8] - BSA and Azide free

Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704) is a mouse monoclonal antibody provided in a PBS only buffer for easy conjugation detecting NeuroD1 in **Western Blot, Flow Cytometry, IHC-P**. Suitable for **Human**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Over 50 publications
- Trusted since 2007

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human NEUROD1 aa 200-300. The exact immunogen used to generate this antibody is proprietary information. Database link Q13562
Carrier free	Yes
Clone number	3H8
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Sheep, Cow
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Sheep, Cow
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Sheep, Cow
Dilution info	-
Notes	-

Target data

See full target information NEUROD1

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P) in Human samples.

What is the molecular weight of NeuroD1?
Anti-NeuroD1 [3H8] - BSA and Azide free (ab60704) specifically detects a band for NeuroD1 (UniProt: Q13562) at a molecular weight of 40kDa.

Trusted by the scientific community
Anti-NeuroD1 [3H8] - BSA and Azide free (ab60704) was first used in a scientific publication in 2007 and has been cited over 50 times in peer-reviewed journals.

Reviewed by scientists
Anti-NeuroD1 [3H8] - BSA and Azide free (ab60704) has over 15 independent reviews from customers.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	NeuroD1 also referred to as Neurogenic Differentiation 1 is a basic helix-loop-helix transcription factor with a molecular mass of approximately 40 kDa. This protein is expressed mainly in the central nervous system as well as in the pancreas. NeuroD1 plays a role in activating transcription by binding to DNA sequences in specific target genes. This process involves dimerization with E proteins facilitating its function as a transcriptional activator.
Biological function summary	NeuroD1 influences neural development and differentiation. It is vital in converting undifferentiated neural precursors into mature neurons ensuring proper brain formation. NeuroD1 forms part of a transcriptional complex with other neural transcription factors which coordinates the expression of genes needed for neuron specification. Apart from neurogenesis it regulates insulin gene expression in pancreatic beta cells linking neural functions to endocrine regulation.
Pathways	NeuroD1 functions in the neurogenesis pathway and interacts closely with the Notch signaling pathway. It plays a role by influencing the expression of genes essential for neuronal lineage commitment. In the insulin signaling pathway NeuroD1 cooperates with other transcription factors like Pdx1 and MafA managing the expression of insulin and other important beta-cell genes. Interactions with proteins like E47 increase its regulatory effects on these pathways.
Associated diseases and disorders	Defects in NeuroD1 function connect to conditions such as diabetes mellitus and medulloblastoma. In diabetes mellitus NeuroD1 mutations can disturb insulin gene regulation impacting glucose metabolism severely. The connection with Pdx1 further magnifies its involvement in pancreatic beta-cell function. In medulloblastoma aberrant expression or mutations in NeuroD1 affect neuronal differentiation leading to tumor development. NeuroD1 influences cellular pathways interacting with proteins such as Sox9 which contributes to oncogenic processes in neural tissues.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

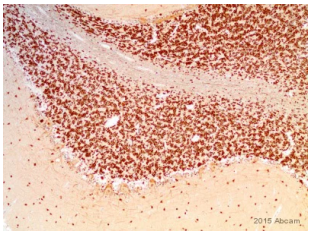
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

---

5 product images

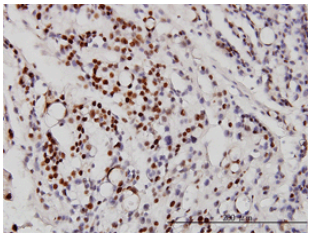


This image is courtesy of an anonymous customer review.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704)

NeuroD1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NeuroD1 antibody

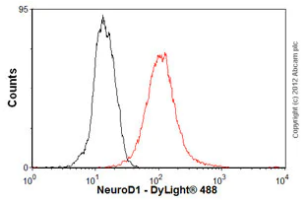
Immunohistochemical analysis of formaldehyde fixed human cerebellum sections incubated with ab60704 for 20 minutes at 25°C in a concentration of 1/400. The blocking step was performed with 3% H_2O_2 for 10 minutes at 25°C. The secondary antibody used was a polyclonal goat anti-mouse/rabbit HRP conjugate, used undiluted.
This image was generated using the ascites version of the product.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704)

NeuroD1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-NeuroD1 antibody

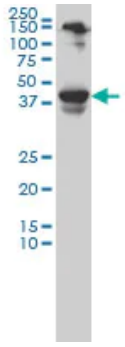
ab60704 at 3ug/ml staining NeuroD1 in human ovary, clear cell carcinoma by Immunohistochemistry, Formalin-fixed Paraffin-embedded tissue.
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704)

NeuroD1 Flow Cytometry staining using mouse Anti-NeuroD1 antibody

Overlay histogram showing SHSY-5Y cells stained with ab60704 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab60704, 0.5µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SHSY-5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.
This image was generated using the ascites version of the product.



Western blot - Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704)

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704)

All lanes:
IMR-32 (Human Caucasian neuroblastoma) whole cell lysate at 50 µg

Secondary

All lanes:
Goat Anti-Mouse IgG HRP at 1/2500 dilution

Developed using the ECL technique.

Predicted band size: 40 kDa

Observed band size: 150 kDa, 40 kDa

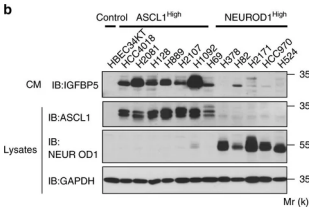


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-NeuroD1 antibody [3H8] - BSA and Azide free (ab60704)

NeuroD1 Western blot staining using mouse Anti-NeuroD1 antibody

Western Blotting using Anti-NeuroD1 antibody [3H8] - BSA and Azide freeAnti-NeuroD1 antibody [3H8] - BSA and Azide free, ab60704. Publication image from Minna, J. D. et al., 2019, Nat Commun, 31324758. Legend direct from paper.

Identification of IGFBP5 as a direct transcriptional target of ASCL1. a Correlation heatmap illustrating clustered matrix of top four genes with the highest similarities with ASCL1 based on the expression profiles from three independent SCLC transcriptomic datasets. b Western blot of IGFBP5 in the CM, ASCL1, and NEUROD1 in the lysates of the indicated cell lines (HBEC34-KT and NE-lung cancer cell lines). Molecular weight is indicated as Mr (k). c Immunoblotting analyses of the IGFBP5 levels in the CM and lysates of H2081 cells transduced with the indicated shRNAs. d, e RT-PCR (n = 9, 3 independent experiments x 3 replicates) (d) and immunoblotting (e) analyses of IGFBP5 expression in HEK293T cells transfected with the indicated expression constructs. f Schematic for the various IGFBP5 luciferase reporter constructs. g Luciferase activity analysis of HEK293T cells transfected with the indicated IGFBP5 luciferase reporter constructs, together with

V5-tagged GFP, ASCL1, or NEUROD1 (n = 4 replicates). h Luciferase activity of HEK293T cells transfected with the indicated deletion mutants of IGFBP5 luciferase reporter constructs, together with V5-tagged GFP, ASCL1, or NEUROD1 (n = 3 replicates). Unpaired two-tailed t-test. **P < 0.01, ***P < 0.001, n.s not significant. Error bars represent mean ± standard error of mean (s.e.m.). Source data are provided as a Source Data file

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.