

Product Datasheet

ALDH1A3 Antibody - BSA Free

NBP2-15339

Unit Size: 0.1 ml

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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NBP2-15339

ALDH1A3 Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	56 kDa

Product Description

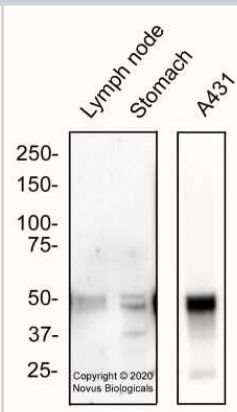
Host	Rabbit
Gene ID	220
Gene Symbol	ALDH1A3
Species	Human, Mouse, Rat
Reactivity Notes	Use in Mouse reported in scientific literature (PMID:34572374). Mouse reactivity reported in scientific literature (PMID: 28249000). Chicken (88%)., Xenopus laevis (83%). .
Immunogen	Recombinant protein encompassing a sequence within the center region of human ALDH1A3. The exact sequence is proprietary.

Product Application Details

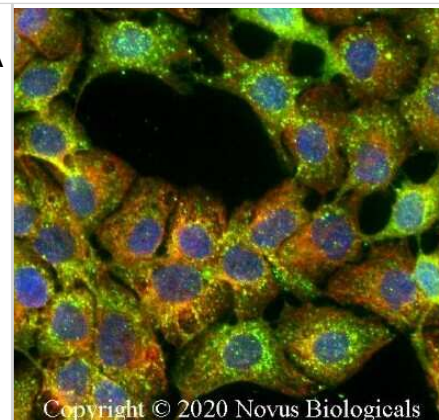
Applications	Western Blot, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:500 - 1:3000, Immunohistochemistry 1:100 - 1:1000, Immunocytochemistry/ Immunofluorescence 1:100 - 1:1000. Use reported by customer review, Immunohistochemistry-Paraffin 1:100 - 1:1000, Immunohistochemistry-Frozen reported by customer review and in scientific literature (PMID 26713822), Immunoblotting reported in scientific literature (PMID 27572106)

Images

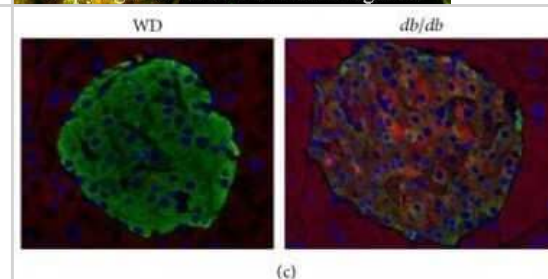
Western Blot: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Total protein from human Lymph node, mouse Stomach and A431 cells was separated on a 7.5% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 2.0 ug/ml anti-ALDH1A3 (NBP2-15339) in blocking buffer and detected with an anti-rabbit HRP secondary antibody using chemiluminescence.



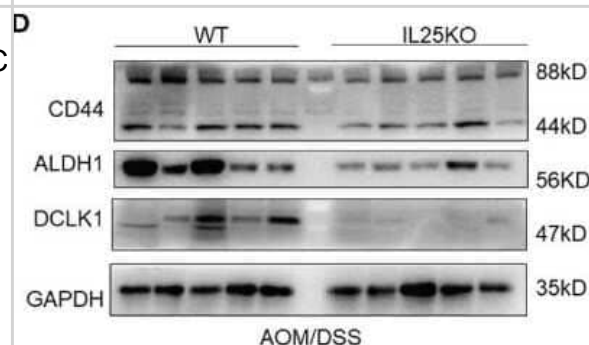
Immunocytochemistry/Immunofluorescence: ALDH1A3 Antibody - BSA Free [NBP2-15339] - A431 cells were fixed for 10 minutes using 4% PFA and then permeabilized for 5 minutes using 1X PBS + 0.05% Triton-X100. The cells were incubated with anti-ALDH1A3 at 2 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:500 dilution. Alpha tubulin (DM1A) NB100-690 was used as a co-stain at a 1:1000 dilution and detected with an anti-mouse Dylight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



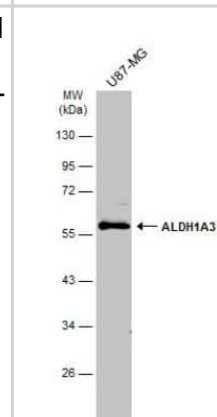
Immunohistochemistry: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Markers of dedifferentiation are present in islets of db/db, but not weight-matched WD-fed mice. Staining for Aldh1a3 protein (red) and insulin (green) in islets from weight-matched WD-fed mice (20 weeks on diet) versus db/db mice (14 weeks of age). Image collected and cropped by CiteAb from the following publication (<https://www.hindawi.com/journals/jdr/2017/8503754/>) licensed under a CC-BY license.



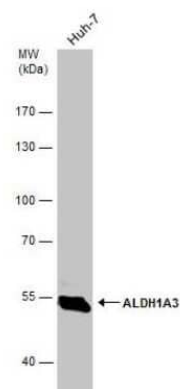
Western Blot: ALDH1A3 Antibody - BSA Free [NBP2-15339] - IL25 Deficiency Induced loss of CRC stemness. The expression levels of CSC markers, namely, DCLK1, ALDH1 (NBP2-15339), and CD44, were examined in tumor tissues by Western blotting. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/35359953/>) licensed under a CC-BY license.



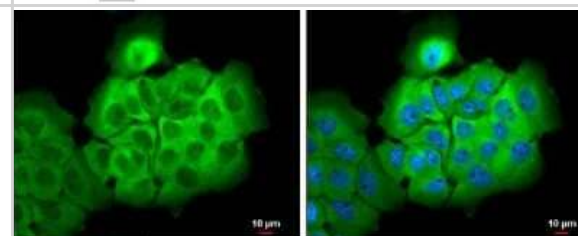
Western Blot: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Whole cell extract (30 ug) was separated by 10% SDS-PAGE, and the membrane was blotted with ALDH1A3 antibody [N2C2], diluted at 1:1000. The HRP-conjugated anti-rabbit IgG antibody (NBP2-19301) was used to detect the primary antibody.



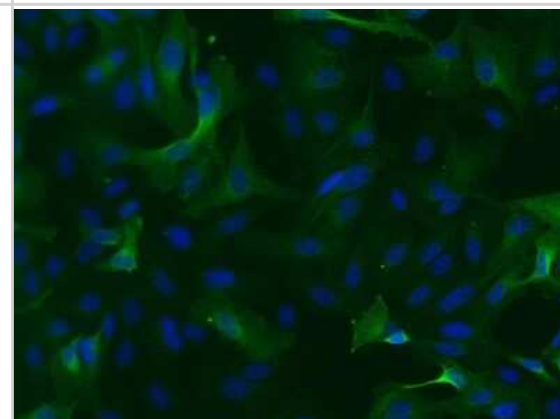
Western Blot: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Whole cell extract (30 ug) was separated by 7.5% SDS-PAGE, and the membrane was blotted with ALDH1A3 antibody [N2C2], diluted at 1:2000.



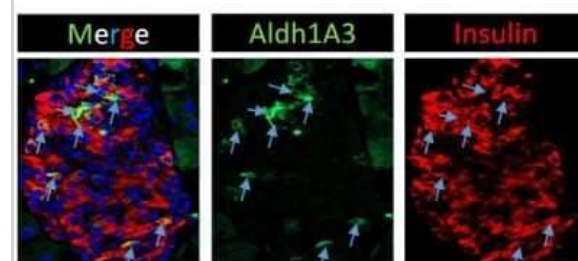
Immunocytochemistry/Immunofluorescence: ALDH1A3 Antibody - BSA Free [NBP2-15339] - A431 cells were fixed in 4% paraformaldehyde at RT for 15 min. Green: ALDH1A3 stained by ALDH1A3 antibody [N2C2], diluted at 1:500. Blue: Hoechst 33342 staining.



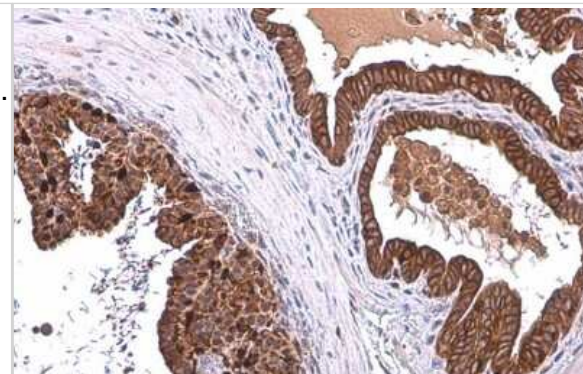
Immunocytochemistry/Immunofluorescence: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Human breast cancer cells with Aldh1a3 overexpression were stained at 1:500 in 5% goat serum in PBS-T. Human breast cancer cells were transduced with human Aldh1a3 and probed with antibody at 1:500 overnight at 4C followed by counterstaining with secondary and DAPI. Strong signal observed compared to knockout controls. ICC/IF image submitted by a verified customer review.



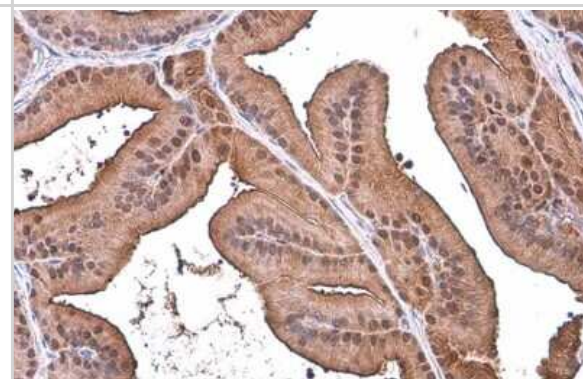
Immunohistochemistry-Frozen: ALDH1A3 Antibody - BSA Free [NBP2-15339] - 8-week old mouse pancreas cryosections with beta cell dedifferentiation properties were stained with ALDH1A3 (1:500 dilution) and Insulin (1:1000 dilution) antibodies. Blue arrows indicate insulin +Aldh1A3+ cells. IHC-Fr image submitted by a verified customer review.



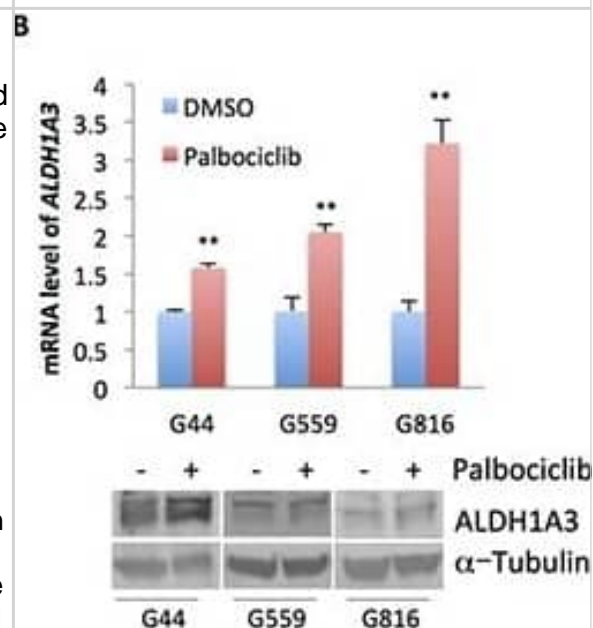
Immunohistochemistry-Paraffin: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Mouse prostate. ALDH1A3 stained by ALDH1A3 antibody [N2C2], diluted at 1:500. Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



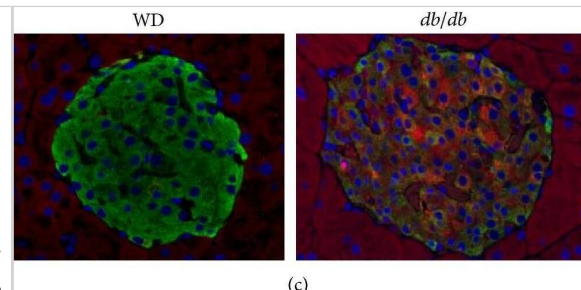
Immunohistochemistry-Paraffin: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Rat prostate. ALDH1A3 stained by ALDH1A3 antibody [N2C2], diluted at 1:500. Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Western Blot: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Palbociclib induces a potential transition of PN GSCs to MES GSCs(A) qPCR analysis of markers of PN & MES subtypes in G44 & G559 treated with the indicated doses of palbociclib for 5 days. $n = 3$. Differences were analyzed between the control & the palbociclib-treated groups. NS: not statistically significant; # $p < 0.05$; * $p < 0.01$; ** $p < 0.001$. (B) qPCR & immunoblot analysis of ALDH1A3 in three independent PN GSC lines that were treated with 10 nM of palbociclib for 5 days. $n = 3$. Differences were analyzed between the control & the palbociclib-treated groups. NS: not statistically significant; # $p < 0.05$; * $p < 0.01$; ** $p < 0.001$. (C) Cell proliferation analysis of three independent PN GSC lines that were treated with palbociclib (10 nM), DEAB (25 μ M), or both for 5 days. The cells were cultured on a laminin (10 μ g/ml in poly ornithine)-coated 96-well plate. Cell number was determined by CyQUANT Direct Cell Proliferation assay. $n = 3$. * $p < 0.05$, comparison between palbociclib or DEAB treatment with the vehicle control; # $p < 0.05$, comparison between combination group with palbociclib treatment. G44, CDI = 0.79; G559, CDI = 0.565; G816, CDI = 0.677. Shown are representative data of three independent experiments with similar results. Image collected & cropped by CiteAb from the following publication (<https://www.oncotarget.com/lookup/doi/10.18632/oncotarget.19429>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: ALDH1A3 Antibody - BSA Free [NBP2-15339] - Markers of dedifferentiation are present in islets of db/db, but not weight-matched WD-fed mice. (a) Immunofluorescent analysis of islets from weight-matched WD-fed mice (top row) & db/db mice (bottom row) showing Nkx6.1 (red), insulin (green), & DAPI (blue). In the merged image, note the loss of double-positive nuclei (DAPI plus Nkx6.1; purple color) in the db/db mice but not in the WD-fed mice. (b) Expression of the *Aldh1a3* gene in islets isolated from mice fed a WD for 4 or 12 weeks normalized to mice fed a control diet compared with db/db mice at 8 weeks of age (normalized to lean db/+ controls). $p < 0.001$ versus both WD groups by one-way ANOVA. (c) Staining for *Aldh1a3* protein (red) & insulin (green) in islets from weight-matched WD-fed mice (20 weeks on diet) versus db/db mice (14 weeks of age). Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/29038790>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



(c)

Publications

Kaori Motomura, Takashi Matsuzaka, Shigeyuki Shichino, Tatsuro Ogawa, Hao Pan, Takuya Nakajima, Yasuhito Asano, Toshitsugu Okayama, Tomoyo Takeuchi, Hiroshi Ohno, Song-lee Han, Takafumi Miyamoto, Yoshinori Takeuchi, Motohiro Sekiya, Hirohito Sone, Naoya Yahagi, Yoshimi Nakagawa, Tatsuya Oda, Satoshi Ueha, Kazuho Ikeo, Atsushi Ogura, Kouji Matsushima, Hitoshi Shimano Single-Cell Transcriptome Profiling of Pancreatic Islets From Early Diabetic Mice Identifies Anxa10 for Ca²⁺ Allostasis Toward β -Cell Failure Diabetes 2024-01-01 [PMID: 37871012]

Jiajun Sun, Qicheng Ni, Jing Xie, Min Xu, Jun Zhang, Jie Kuang, Yanqiu Wang, Guang Ning, Qidi Wang β -Cell Dedifferentiation in Patients With T2D With Adequate Glucose Control and Nondiabetic Chronic Pancreatitis. The Journal of clinical endocrinology and metabolism 2019-12-03 [PMID: 30085195]

Casteels T, Zhang Y, Frogne T Et al. An inhibitor-mediated beta cell dedifferentiation model reveals distinct roles for FoxO1 in glucagon repression and insulin maturation Molecular metabolism 2021-08-25 [PMID: 34454092]

Hitoshi Watanabe, Shun-ichiro Asahara, Jinsook Son, Wendy M. McKimpson, Rafael de Cabo, Domenico Accili, Wataru Nishimura Cyb5r3 activation rescues secondary failure to sulfonylurea but not β -cell dedifferentiation PLOS ONE 2024-02-09 [PMID: 38335173]

Sarah M. Graff, Arya Y. Nakhe, Prasanna K. Dadi, Matthew T. Dickerson, Jordyn R. Dobson, Karolina E. Zaborska, Chloe E. Ibsen, Regan B. Butterworth, Nicholas C. Vierra, David A. Jacobson TALK-1-mediated alterations of β -cell mitochondrial function and insulin secretion impair glucose homeostasis on a diabetogenic diet Cell reports 2024-02-27 [PMID: 38206814]

Lizbeth Perez-Castro, Niranjana Venkateswaran, Roy Garcia, Yi-Heng Hao, M. C. Lafita-Navarro, Jiwoong Kim, Dagan Segal, Etai Saponzik, Bo-Jui Chang, Reto Fiolka, Gaudenz Danuser, Lin Xu, Thomas Brabletz, Maralice Conacci-Sorrell The AHR target gene scinderin activates the WNT pathway by facilitating the nuclear translocation of β -catenin Journal of Cell Science 2022-10-27 [PMID: 36148682]

Maria M. Glavas, Queenie Hui, Eva Tudurí, Suheda Erener, Naomi L. Kasteel, James D. Johnson, Timothy J. Kieffer Early overnutrition reduces Pdx1 expression and induces β cell failure in Swiss Webster mice Scientific Reports 2019-03-06 [PMID: 30842440]

Xiao Lei, Emi Ishida, Satoshi Yoshino, Shunichi Matsumoto, Kazuhiko Horiguchi, Eijiro Yamada, Josep Julve Calorie Restriction Using High-Fat/Low-Carbohydrate Diet Suppresses Liver Fat Accumulation and Pancreatic Beta-Cell Dedifferentiation in Obese Diabetic Mice Nutrients 2024-03-28 [PMID: 38613031]

Correa-Gallegos D, Ye H, Dasgupta B et al. CD201+ fascia progenitors choreograph injury repair Nature 2023-11-01 [PMID: 37968392] (IHC-P, Mouse)

Details:
1:100 IHC-P dilution

So WY, Liao Y, Liu WN et al. Paired box 6 gene delivery preserves beta cells and improves islet transplantation efficacy EMBO molecular medicine 2023-11-07 [PMID: 37933577] (WB, Human)

Details:
1:1000 dilution

Osipovich AB, Zhou FY, Chong JJ et al. Deletion of Ascl1 in pancreatic β -cells improves insulin secretion, promotes parasympathetic innervation, and attenuates dedifferentiation during metabolic stress Molecular Metabolism 2023-09-01 [PMID: 37769990] (IHC, Mouse)

Chen Z, Will R, Kim SN et al. Novel Function of Cancer Stem Cell Marker ALDH1A3 in Glioblastoma: Pro-Angiogenesis through Paracrine PAI-1 and IL-8 Cancers (Basel) 2023-09-04 [PMID: 37686698]

More publications at <http://www.novusbio.com/NBP2-15339>





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NBP2-24891	Rabbit IgG Isotype Control
NBP2-56464PEP	ALDH1A3 Recombinant Protein Antigen

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