Product Datasheet

SUCNR1/GPR91 Antibody - BSA Free
NBP1-00861

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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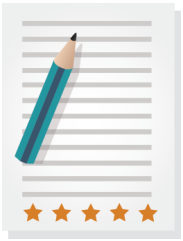
Updated 9/9/2025 v.20.1



NBP1-00861

SUCNR1/GPR91 Antibody - BSA Free

Product Information

Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	38 kDa

Product Description

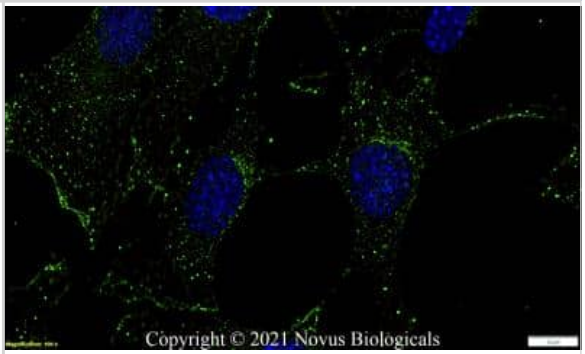
Description	Novus Biologicals Rabbit SUCNR1/GPR91 Antibody - BSA Free (NBP1-00861) is a polyclonal antibody validated for use in IHC, WB and ICC/IF. Anti-SUCNR1/GPR91 Antibody: Cited in 23 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	56670
Gene Symbol	SUCNR1
Species	Human, Mouse, Rat
Specificity/Sensitivity	GPR91 (A135) detects endogenous levels of GPR91 protein.
Immunogen	A synthetic peptide made to an internal portion of the human GPR91 protein (between residues 100-200) [Uniprot: Q9BXA5]

Product Application Details

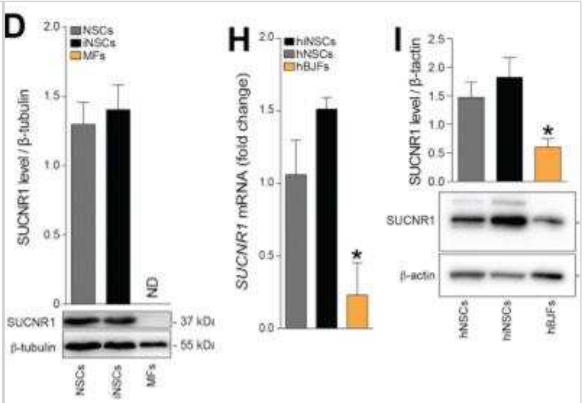
Applications	Western Blot, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, In vitro assay
Recommended Dilutions	Western Blot 1-2 ug/ml, Immunohistochemistry 1:200, Immunocytochemistry/ Immunofluorescence 1:50-1:200, Immunohistochemistry-Paraffin 1:200, In vitro assay reported in scientific literature (PMID 30478422)

Images

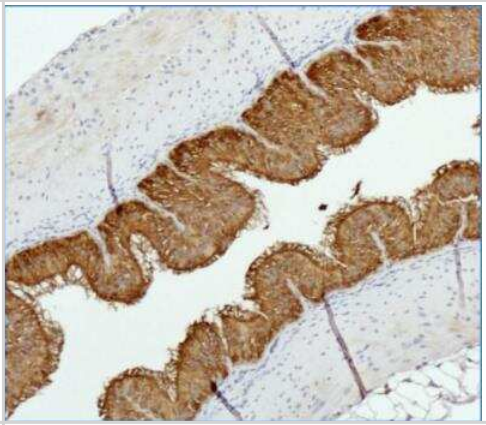
Immunocytochemistry/Immunofluorescence: SUCNR1/GPR91 Antibody [NBP1-00861] - NIH3T3 cells were fixed in 4% paraformaldehyde for 10 minutes and permeabilized in 0.05% Triton X-100 in PBS for 5 minutes. The cells were incubated with anti-SUCNR1/GPR91 Antibody NBP1-00861 at 2 ug/ml overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at a 1:1000 dilution for 60 minutes. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 100X objective and digitally deconvolved.



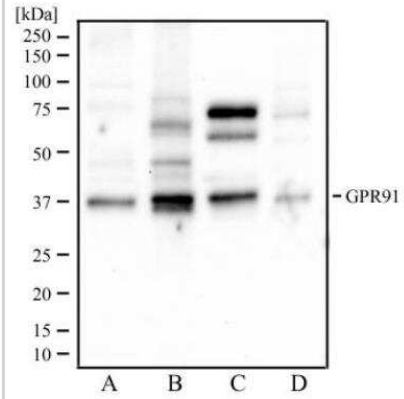
Western Blot: SUCNR1/GPR91 Antibody [NBP1-00861] - D) SUCNR1 protein expression relative to B-tubulin in vitro. Data are shown as mean (+/- SEM) of n >= 3 independent replicates per condition. (H) qRT-PCR of SUCNR1 basal expression in human cells. Data are normalized on 18S and expressed as mean fold change (+/- SEM) versus NSCs from n >= 3 independent replicates per condition. (I) Representative blot of SUNCR1 basal protein expression in human cells. hBJFs, human BJ fibroblasts. *p <= 0.05 versus 0'. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29478844) licensed under a CC-BY license.



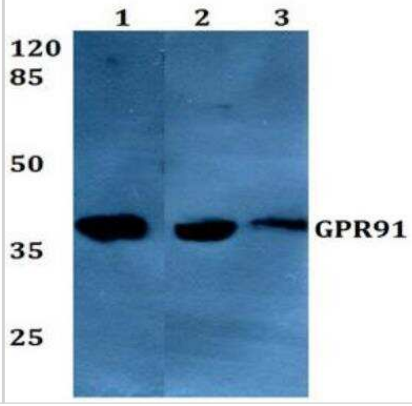
Immunohistochemistry-Paraffin: SUCNR1/GPR91 Antibody [NBP1-00861] - Staining of GPR91 in mouse Vas Deferens where strong membrane staining is observed.



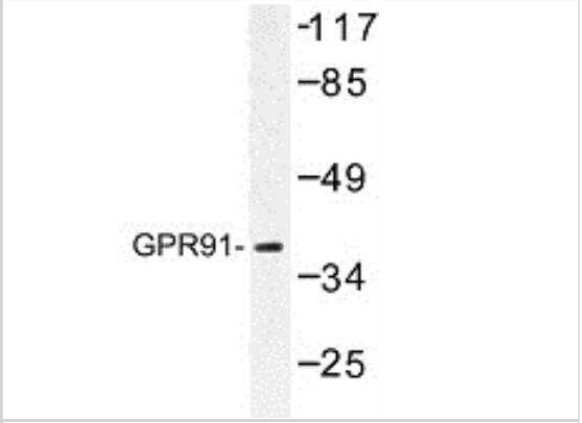
Western Blot: SUCNR1/GPR91 Antibody [NBP1-00861] - Analysis of human kidney tissue (A), mouse kidney tissue (B), rat kidney tissue (C), and hek293 cells (D) using GPR91 antibody at 2ug/ml.



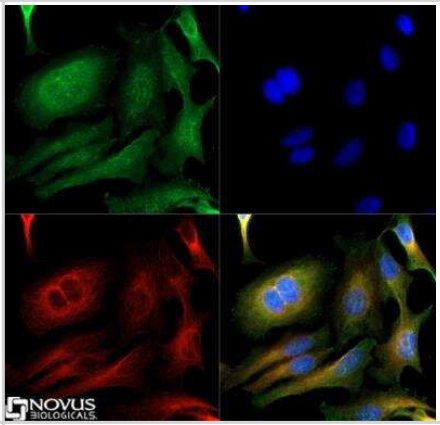
Western Blot: SUCNR1/GPR91 Antibody [NBP1-00861] - Lane1:Hela whole cell lysate. Lane2:Mouse kidney tissue lysate. Lane3:Rat kidney tissue lysate.



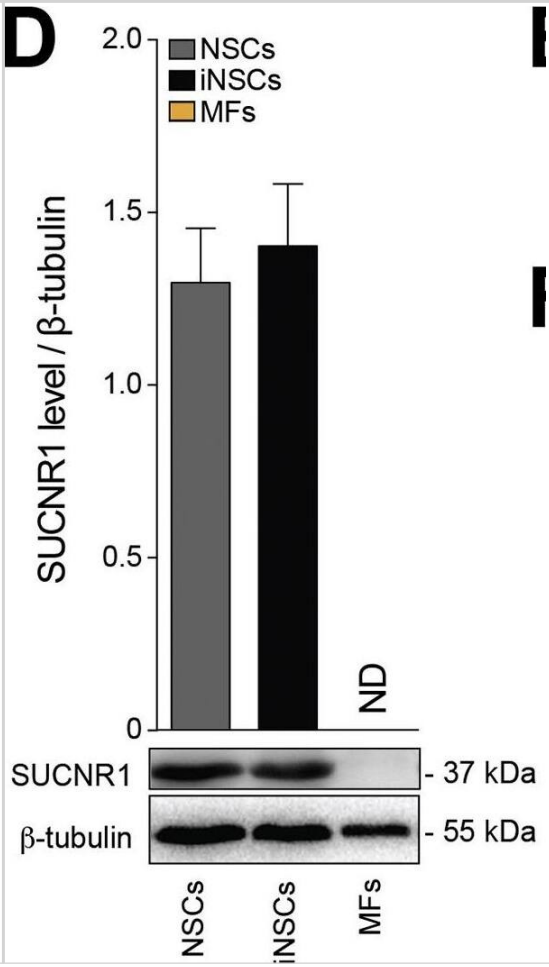
Western Blot: SUCNR1/GPR91 Antibody [NBP1-00861] - Analysis of GPR91 (A135) antibody in extracts from HUVEC/MCF-7 cells.



Immunocytochemistry/Immunofluorescence: SUCNR1/GPR91 Antibody [NBP1-00861] - GPR91 antibody (1:50) was tested in HeLa cells with Dylight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and Dylight 550 (red). Image objective 40x.



Western Blot: SUCNR1/GPR91 Antibody - BSA Free [NBP1-00861] - Succinate Signals via SUCNR1 in Mouse & Human NSCs(A–C) Representative confocal microscopy images of meningeal perivascular areas with transplanted fGFP+ iNSCs (A) & NSCs (B) expressing SUCNR1 in the brain of a mouse with EAE. The image in (C) shows transplanted SUCNR1+ iNSCs in close vicinity to SUCNR1+/F4/80+ MPs. Nuclei are stained with DAPI.(D) SUCNR1 protein expression relative to β-tubulin in vitro. Data are shown as mean (±SEM) of n ≥ 3 independent replicates per condition.(E) Experimental setup for succinate treatment of iNSCs/NSCs in vitro.(F) Intracellular Ca2+ response after treatment with 500 µM succinate (live staining with Fluo-4AM). Representative images (baseline & during stimulation) are pseudocolored with red/blue according to high/low fluorescence intensity. Data are mean changes in fluorescence intensity as ΔF/F0 (±SEM) from n ≥ 3 experiments.(G) Phospho-p38 MAPK (P-p38) & total p38 MAPK (p38) protein expression after succinate treatment. Data are P-p38/p38 expression relative to β-tubulin & expressed as mean fold change (±SEM) versus untreated cells over n ≥ 3 independent experiments per condition.(H) qRT-PCR of SUCNR1 basal expression in human cells. Data are normalized on 18S & expressed as mean fold change (±SEM) versus NSCs from n ≥ 3 independent replicates per condition.(I) Representative blot of SUNCR1 basal protein expression in human cells.(J) P-p38 & p38 protein expression after stimulation with succinate ± pre-treatment with the irreversible inhibitor of the human SUCNR1 4c.The scale bars represent 25 µm. □p ≤ 0.05 versus 0'. hBJFs, human BJ fibroblasts; ND, not detected. See also Figure S4. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29478844), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



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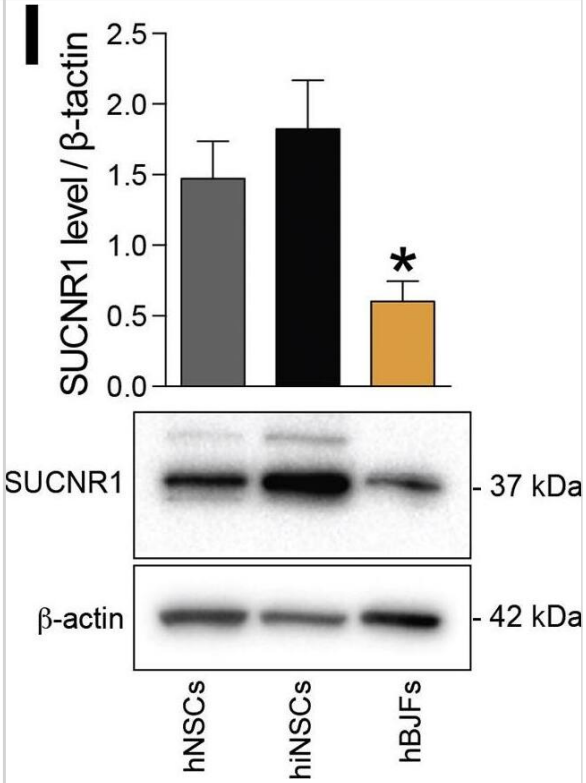

Publications

Yu W, Moninger TO, Rector MV et al. Pulmonary neuroendocrine cells sense succinate to stimulate myoepithelial cell contraction Developmental Cell 2022-09-14 [PMID: 36108628] (Western Blot, Immunocytochemistry/ Immunofluorescence, Rat)

Y Guo, F Xu, SC Thomas, Y Zhang, B Paul, S Sakilam, S Chae, P Li, C Almeter, AR Kamer, P Arora, DT Graves, D Saxena, X Li Targeting the succinate receptor effectively inhibits periodontitis Cell Reports, 2022-09-20;40 (12):111389. 2022-09-20 [PMID: 36130514] (Western Blot, Immunocytochemistry/ Immunofluorescence, Rat)

Tianyi Shen, Ruoyi Lin, Chengyu Hu, Donghui Yu, Chengda Ren, Tingting Li, Meijiang Zhu, Zhongqi Wan, Tu Su, Yan Wu, Wenting Cai, Jing Yu Succinate-induced macrophage polarization and RBP4 secretion promote vascular sprouting in ocular neovascularization Journal of Neuroinflammation 2023-12-21 [PMID: 38129891]

Pu M, Zhang J, Hong F et al. The pathogenic role of Succinate-SUCNR1: A critical function that induces renal fibrosis via infiltration of M2 macrophage Research Square 2023-08-21 (WB, Mouse)

Cao Z, Mu S, Wang M et al. Succinate pretreatment attenuates intestinal ischemia-reperfusion injury by inhibiting necroptosis and inflammation via upregulating Klf4 International immunopharmacology 2023-07-01 [PMID: 37285681] (WB, Mouse)

Xu J, Tian Z, Li Z et al. Puerarin-Tanshinone IIA Suppresses atherosclerosis inflammatory plaque via targeting succinate/HIF-1alpha/IL-1beta axis Journal of ethnopharmacology 2023-05-29 [PMID: 37257708] (WB, Mouse)

Wang Y, Tao H, Tang W et al. Succinate level is increased and succinate dehydrogenase exerts forward and reverse catalytic activities in lipopolysaccharides-stimulated cardiac tissue: The protective role of dimethyl malonate European journal of pharmacology 2022-12-20 [PMID: 36549501] (B/N, Mouse)

Gudgeon N, Munford H, Bishop EL et al. Succinate uptake by T cells suppresses their effector function via inhibition of mitochondrial glucose oxidation Cell reports 2022-08-16 [PMID: 35977513] (WB)

Details:
Dilutions: 1:500

Sanchez M, Hamel D, Bajon E et al. The Succinate Receptor SUCNR1 Resides at the Endoplasmic Reticulum and Relocates to the Plasma Membrane in Hypoxic Conditions Cells 2022-07-13 [PMID: 35883628] (IHC-P, Human)

Xu G, Yuan Y, Luo P et al. Acute Succinate Administration Increases Oxidative Phosphorylation and Skeletal Muscle Explosive Strength via SUCNR1 Frontiers in veterinary science 2022-01-14 [PMID: 35097053] (IF/IHC, WB, Mouse)

Moyon A, Garrigue P, Balasse L et al. Succinate Injection Rescues Vasculature and Improves Functional Recovery Following Acute Peripheral Ischemia in Rodents: A Multimodal Imaging Study Cells 2021-04-02 [PMID: 33918298] (IF/IHC, WB, ICC/IF, Mouse)

Liu P, Wang J, Wen W et al. Cinnamaldehyde suppresses NLRP3 derived IL-1 beta via activating succinate/HIF-1 in rheumatoid arthritis rats Int. Immunopharmacol. 2020-01-01 [PMID: 32413739] (IF/IHC, Rat)

More publications at http://www.novusbio.com/NBP1-00861

Procedures

Western Blot protocol for SUCNR1/GPR91 Antibody (NBP1-00861)

Western Blot Protocol

1. Perform SDS-PAGE with a 12% gel on samples to be analyzed, loading 25 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute anti-GPR91 primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

Immunohistochemistry-Paraffin protocol for SUCNR1/GPR91 Antibody (NBP1-00861)

Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes.

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in wash buffer for 5 minutes.
3. Block each section with 100-400 ul blocking solution for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul biotinylated diluted secondary antibody. Incubate 30 minutes at room temperature.
7. Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.
8. Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.
9. Wash sections three times in wash buffer for 5 minutes each.
10. Add 100-400 ul DAB substrate to each section and monitor staining closely.
11. As soon as the sections develop, immerse slides in deionized water.
12. Counterstain sections in hematoxylin.
13. Wash sections in deionized water two times for 5 minutes each.
14. Dehydrate sections.
15. Mount coverslips.

Immunocytochemistry/Immunofluorescence protocol for SUCNR1/GPR91 Antibody (NBP1-00861)

Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,0000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

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NB820-59280	Human Adrenal Whole Tissue Lysate (Adult Whole Diabetes)
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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis.
Primary Antibodies are guaranteed for 1 year from date of receipt.

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