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Anti-SGLT2/SLC5A2 Antibody Picoband®

Catalog Number: A03748-1

About SLC5A2

The sodium/glucose cotransporter 2 (SGLT2) is a protein that in humans is encoded by the SLC5A2 gene. It is mapped to 16p11.2. This gene encodes a member of the sodium glucose cotransporter family which are sodium-dependent glucose transport proteins. The encoded protein is the major cotransporter involved in glucose reabsorption in the kidney. Mutations in this gene are associated with renal glucosuria. Two transcript variants, one protein-coding and one not, have been found for this gene.

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Overview

Product Name	Anti-SGLT2/SLC5A2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-SGLT2/SLC5A2 Antibody Picoband® catalog # A03748-1. Tested in ELISA, Flow Cytometry, IHC, IHC-F, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, IHC, IHC-F, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P31639

Technical Details

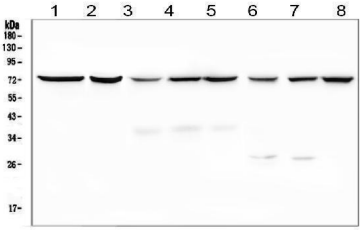
Immunogen	E.coli-derived human SGLT2/SLC5A2 recombinant protein (Position: A15-N656).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P), IHC(F) and

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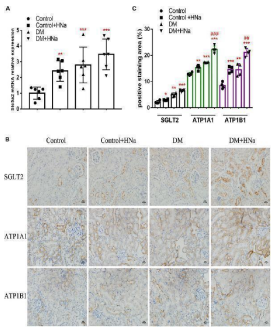
	ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml Immunohistochemistry (Frozen Section), 0.5-1ug/ml Immunocytochemistry, 0.5-1ug/ml Flow Cytometry (Fixed), 1-3ug/1x10^6 cells ELISA, 0.1-0.5ug/ml Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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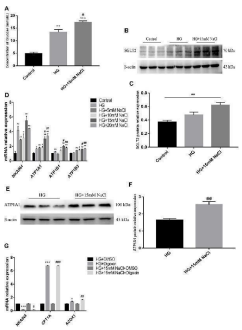
Anti-SGLT2/SLC5A2 Antibody Picoband® (A03748-1) Images



Western blot analysis of SLC5A2 using anti-SLC5A2 antibody (A03748-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human HL-60 whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: rat kidney tissue lysates, Lane 4: rat spleen tissue lysates, Lane 5: rat lung tissue lysates, Lane 6: mouse kidney tissue lysates, Lane 7: mouse spleen tissue lysates, Lane 8: mouse lung tissue lysates, After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SLC5A2 antigen affinity purified polyclonal antibody (Catalog # A03748-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for SLC5A2 at approximately 73KD. The expected band size for SLC5A2 is at 73KD.

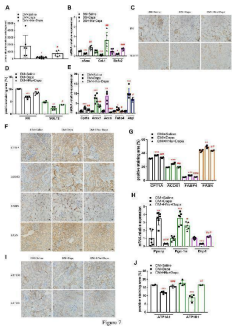


High-salt diet alters SGLT2 and Na+/K + -ATPase expression in renal tubules of DKD mice. (A) Expression of SGLT2 gene in renal tubules (n = 6 per group). (B) Paraffin-embedded renal sections were stained with SGLT2, ATP1A1 and ATP1B1 antibodies (magnification, 400×, bar = 20 um). (C) Histopathological assessment of SGLT2, ATP1A1 and ATP1B1 proteins (n = 4 per group). All data are mean ± SEM, * p < 0.05, ** p < 0.01 and *** p < 0.001 vs. Control group; ## p < 0.01 and ### p < 0.001 vs. DM group.Index in PubMed under a CC BY license. PMID: 34987387

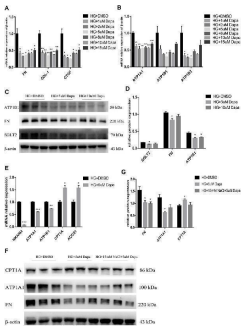


High salt alters SGLT2 and Na+/K + -ATPase expression in HG-treated HK-2. (A) Intracellular glucose concentration. (B,C) Expression of SGLT2 in HK-2 in HK-2 cultured with HG and 15 mM NaCl. (D) Expression of NKAIN4, ATP1A1, ATP1B1 and ATP1B3 genes in HK-2 after exposure to HG and different concentrations of NaCl. (E,F) Expression of ATP1A1 protein in HK-2 with HG and 15 mM NaCl cultured. * p < 0.05, ** p < 0.01 and *** p < 0.001 vs. Control group; # p < 0.05 and ## p < 0.01 vs. HG group. (G) Expression of NKAIN4 and fatty acid metabolism related genes were detected in HK-2 treated with Digoxin. * p < 0.05 and *** p < 0.001 vs. DM + DMSO group; # p < 0.05, ## p < 0.01 and ### p < 0.001 vs. HG + NaCl + DMSO group. All data are mean ± SEM, n = 3 per group.Index in PubMed under a CC BY license. PMID: 34987387

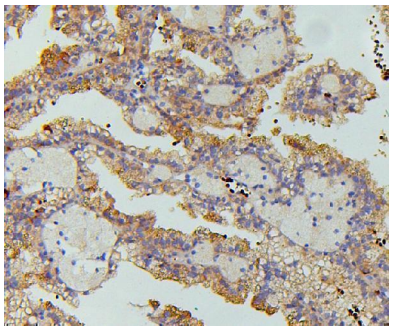
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High-salt diet attenuates gene and protein expression in diabetic mice treated with dapagliflozin. (A) The detection of ACR (n = 6 per group). (B) Expression of alpha Sma, Col-1 and Slc5a2 genes in renal tubules after dapagliflozin treatment (n = 6 per group). (C) Paraffin-embedded renal sections were stained with FN and SGLT2 antibodies (magnification, 400×, bar = 20 um). (D) Histopathological assessment of FN and SGLT2 proteins (n = 4 per group). Expression of genes involved in fatty acid metabolism (E) and mitochondrial biosynthesis (H) in renal tubules after dapagliflozin treatment (n = 6 per group). (F,I) Paraffin-embedded renal sections were stained with CPT1A, ACOX1, FABP4, FASN, ATP1A1 and ATP1B1 antibodies (magnification, 400×, bar = 20 um). (G,J) Histopathological assessment of CPT1A, ACOX1, FABP4, FASN, ATP1A1 and ATP1B1proteins (n = 4 per group). All data are mean ± SEM, * p < 0.05, ** p < 0.01 and *** p < 0.001 vs. DM + Saline group; # p < 0.05, ## p < 0.01 and ### p < 0.001 vs. DM + Dapa group.Index in PubMed under a CC BY license. PMID: 34987387



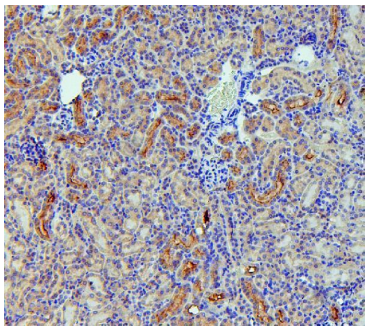
High salt attenuates gene and protein expression in HG-cultured HK-2 treated with dapagliflozin. Expression of fibrosis-related genes (A) and Na+/K + -ATPase-related genes (B) in HG-treated HK-2 after exposure to different concentrations of dapagliflozin. n = 4 per group. (C,D) Expression of SGLT2, FN and ATP1A1 proteins in HG-treated HK-2 after exposure to 5uM and 10uM dapagliflozin. n = 3 per group. (E) Expression of fatty acid metabolism-related genes. n = 3 per group. (F,G) Expression of FN, ATP1A1 and CPT1A proteins in HK-2 co-cultured with HG, 15 mM NaCl and 5 uM dapagliflozin. n = 3 per group. All data are mean ± SEM, * p < 0.05, ** p < 0.01 and *** p < 0.001 vs. HG + DMSO group.Index in PubMed under a CC BY license. PMID: 34987387



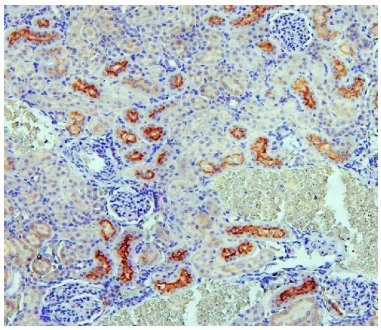
IHC analysis of SLC5A2 using anti-SLC5A2 antibody (A03748-1). SLC5A2 was detected in paraffin-embedded section of human renal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SLC5A2 Antibody (A03748-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

IHC analysis of SLC5A2 using anti-SLC5A2 antibody (A03748-1). SLC5A2 was detected in paraffin-embedded section of mouse kidney tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SLC5A2 Antibody (A03748-1) overnight at 4°C. Biotinylated goat anti-rabbit

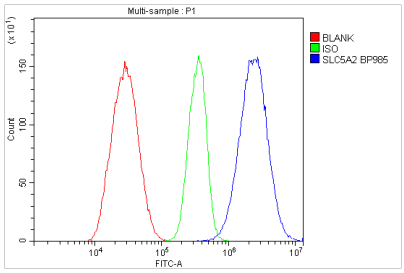
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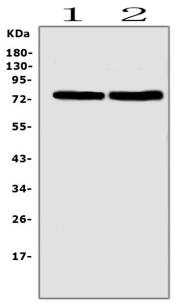
IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of SLC5A2 using anti-SLC5A2 antibody (A03748-1).SLC5A2 was detected in paraffin-embedded section of rat kidney tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SLC5A2 Antibody (A03748-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



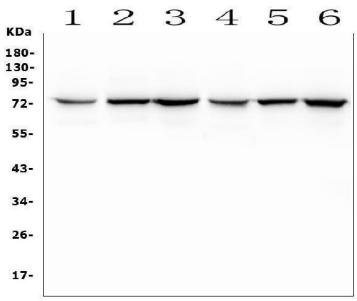
5. Flow Cytometry analysis of HepG2 cells using anti-SLC5A2 antibody (A03748-1). Overlay histogram showing HepG2 cells stained with A03748-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SLC5A2 Antibody (A03748-1,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of SLC5A2 using anti-SLC5A2 antibody (A03748-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human HL-60 whole cell lysates, Lane 2: human THP-1 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SLC5A2 antigen affinity purified polyclonal antibody (Catalog # A03748-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for SLC5A2 at approximately

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73KD. The expected band size for SLC5A2 is at 73KD.



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1 Publications Citing This Product

1. PubMed ID: 10.3389/fphar.2021.741087, High-Salt Attenuates the Efficacy of Dapagliflozin in Tubular Protection by Impairing Fatty Acid Metabolism in Diabetic Kidney Disease.

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Anti-SGLT2/SLC5A2 Antibody

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