Datasheet for ABIN6658257

anti-KCC2 antibody (pSer940)

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Overview

Quantity:	100 µL
Target:	KCC2 (SLC12A5)
Binding Specificity:	pSer940
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This KCC2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunoprecipitation (IP)

Product Details

Purpose:	Potassium Chloride Cotransporter (KCC2) phospho S940 Antibody
Immunogen:	Anti-Potassium Chloride Cotransporter (KCC2) pS940 Antibody was produced by repeated immunizations with a synthetic phospho-peptide corresponding to amino acid residues surrounding Ser940.
Isotype:	IgG
Cross-Reactivity (Details):	Anti-Potassium Chloride Cotransporter (KCC2) pS940 antibody is directed against phosphorylated rat KCC2 protein.
Purification:	The antibody was affinity purified from monospecific antiserum by immunoaffinity purification.

Target Details

Target:	KCC2 (SLC12A5)

Target Details

Alternative Name:	Potassium Chloride Cotransporter (KCC2) (SLC12A5 Products)
Background:	Synonyms: Solute carrier family 12 member 5, Electroneutral potassium-chloride cotransporter 2, Furosemide-sensitive K-Cl cotransporter, K-Cl cotransporter 2, rKCC2, Neuronal K-Cl cotransporter Background: Potassium Chloride Cotransporter pS940 Antibody detects Potassium Chloride Cotransporter pS940 protein. KCC2 is widely thought to be expressed exclusively in neurons where it is responsible for maintaining low intracellular chloride concentration to drive hyperpolarizing post-synaptic responses to the inhibitory neurotransmitters GABA and glycine. Serine 940 on KCC2 has been shown to be phosphorylated by PKC and has further been demonstrated to be the major site for PKC-dependent phosphorylation for full length KCC2 Molecules when expressed in HEK-293 cells as phosphorylation of Ser940 increased the cell surface stability of KCC2 in this system by decreasing it's rate of internalization from the plasma membrane. Anti-Potassium Chloride Cotransporter (KCC2) pS940 Antibody is ideal for investigators involved in Neuroscience and Cell Signaling research. Gene Name: KCC2
Gene ID:	171373
UniProt:	Q63633

Application Details

Application Notes:	Western_Blot_Dilution: 1:1000 Other: User Optimized
Comment:	Anti-Potassium Chloride Cotransporter (KCC2) Antibody is tested for use in IP and Western Blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band of approximately 135 kDa in size corresponding to KCC2 protein phosphorylated at Ser940 in the appropriate cell lysate or extract.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	Buffer: 0.01 M HEPES, 0.15 M Sodium Chloride, pH 7.5 Stabilizer: 0.1 mg/mL Bovine Serum Albumin (BSA) - IgG and Protease free, 50 % (v/v) Glycerol Preservative: None

Handling

Preservative:	Without preservative
Storage:	4 °C,-20 °C
Storage Comment:	Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use.
Expiry Date:	12 months

Publications

Product cited in:

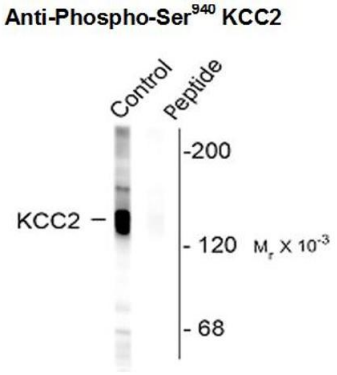
Balapattabi, Little, Bachelor, Cunningham: "Brain-Derived Neurotrophic Factor and Supraoptic Vasopressin Neurons in Hyponatremia." in: **Neuroendocrinology**, Vol. 110, Issue 7-8, pp. 630-641, (2021) (PubMed).

Kfir, Awasthi, Ghosh, Kundu, Paul, Lamprecht, Barkai: "A Cellular Mechanism of Learning-Induced Enhancement of Synaptic Inhibition: PKC-Dependent Upregulation of KCC2 Activation." in: **Scientific reports**, Vol. 10, Issue 1, pp. 962, (2020) (PubMed).

Balapattabi, Little, Farmer, Cunningham: "High salt loading increases brain derived neurotrophic factor in supraoptic vasopressin neurones." in: **Journal of neuroendocrinology**, Vol. 30, Issue 11, pp. e12639, (2019) (PubMed).

Farmer, Balapattabi, Bachelor, Little, Cunningham: "AT1a influences GABAA-mediated inhibition through regulation of KCC2 expression." in: **American journal of physiology. Regulatory, integrative and comparative physiology**, Vol. 315, Issue 5, pp. R972-R982, (2019) (PubMed).

Wang, Ma, Miyoshi, Li, Sato, Ogawa, Lou, Ma, Gao, Lee, Fujiyama, Yang, Zhou, Hotta-Hirashima, Klewe-Nebenius, Ikkyu, Kakizaki, Kanno, Cao, Takahashi, Peng, Yu, Funato, Yanagisawa, Liu: " Quantitative phosphoproteomic analysis of the molecular substrates of sleep need." in: **Nature**, Vol. 558, Issue 7710, pp. 435-439, (2018) (PubMed).



Western blot of rat hippocampal homogenate showing specific labeling of the ~ 135k KCC2 protein (Control). Immunolabeling is blocked by preadsorption with the phospho-peptide used as antigen (Peptide) but not by the corresponding dephospho-peptide (not shown).

Western Blotting

Image 1. Western blot of Anti-Potassium Chloride Cotransporter (KCC2) pS940 (Rabbit) Antibody - 612-401-E15 Western Blot of Rabbit anti-Potassium Chloride Cotransporter (KCC2) pS940 antibody. Lane 1: rat hippocampal homogenate (control). Lane 2: Peptide. Load: 10 µg per lane. Primary antibody: Potassium Chloride Cotransporter (KCC2) pS940 antibody at 1:1,000 for overnight at 4°C. Secondary antibody: rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 135 kDa for Potassium Chloride Cotransporter (KCC2) pS940. Other band(s): Potassium Chloride Cotransporter (KCC2) pS940 splice variants and isoforms.