

Datasheet for 612-401-E15**Potassium Chloride Cotransporter (KCC2) phospho S940 Antibody****Overview**

Description:	Anti-Potassium Chloride Cotransporter (KCC2) pS940 (RABBIT) Antibody - 612-401-E15
Item No.:	612-401-E15
Size:	100 µL
Applications:	IP, WB
Reactivity:	Rat
Host Species:	Rabbit

Product Details

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.
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, Kcc2
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	Slc12a5
Reactivity:	Rat

PTM Specificity:	Phosphorylation
Immunogen Type:	Conjugated Peptide
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.
Purity/Specificity:	Anti-Potassium Chloride Cotransporter (KCC2) pS940 antibody is directed against phosphorylated rat KCC2 protein at pS940. The antibody was affinity purified from monospecific antiserum by immunoaffinity purification. Immunolabeling of the KCC2 protein band is blocked by the phospho-peptide used as antigen but not by the corresponding dephosphopeptide. Reactivity is expected from the following species based on 100% sequence homology: bovine, canine, human, mouse and non-human primate.
Relevant Links:	• 612-401-E15 SDS • UniProtKB - Q63633 • GeneID - 171373 • UniProtKB - Q63633.2

Application Details

Tested Applications:	IP, WB
Application Note:	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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
WB:	1:1000

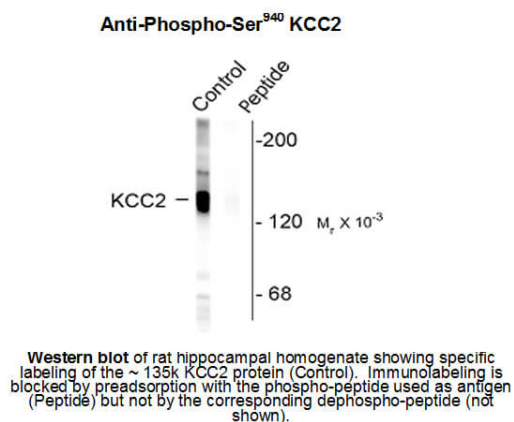
Formulation

Physical State:	Liquid
Concentration:	Sufficient for 10 mini blots (total final volume 100 ml at 1:1000 dilution) Sufficient to run approximately 10 miniblots
Buffer:	0.01 M HEPES, 0.15 M Sodium Chloride, pH 7.5
Preservative:	None
Stabilizer:	0.1 mg/ml Bovine Serum Albumin (BSA) - IgG and Protease free, 50% (v/v) Glycerol

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	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.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Western Blot

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: IRDye800™ 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.

References

- Balapattabi K et al. Brain-Derived Neurotrophic Factor and Supraoptic Vasopressin Neurons in Hyponatremia. *Neuroendocrinology*. (2020)
- Kfir A et al. A cellular mechanism of learning-induced enhancement of synaptic inhibition: PKC-dependent upregulation of KCC2 activation. *Sci Rep*. (2020)
- Wang Z et al. Quantitative phosphoproteomic analysis of the molecular substrates of sleep need. *Nature*. (2018)
- Balapattabi K et al. High salt loading increases brain derived neurotrophic factor in supraoptic vasopressin neurones. *J Neuroendocrinol*. (2018)
- Farmer GE et al. AT1a influences GABAA-mediated inhibition through regulation of KCC2 expression. *Am J Physiol Regul Integr Comp Physiol*. (2018)

Disclaimer

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