10320 Camino Santa Fe, Suite G
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Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1210

Specification

Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody - Product Information

Application	**FC, WB**
Primary Accession	Q63633
Reactivity	**Rat**
Predicted	**Bovine, Human, Mouse, Monkey**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**135 KDa**

Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody - Additional Information

Gene ID	**171373**
Gene Name	**KCC2**

Other Names
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, Slc12a5, Kcc2

Target/Specificity
Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser940 conjugated to KLH.

Dilution
FC~~1:500
WB~~ 1:1000

Format
Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and non-phosphopeptide affinity columns.

Antibody Specificity
Specific for the ~135k KCC2 protein phosphorylated at Ser940. Immunolabeling of the KCC2 protein band is blocked by the phospho-peptide used as antigen but not by the corresponding dephosphopeptide.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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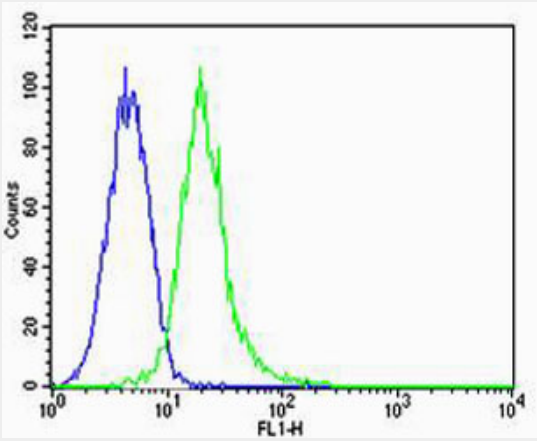
Shipping
Blue Ice

Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody - Protocols

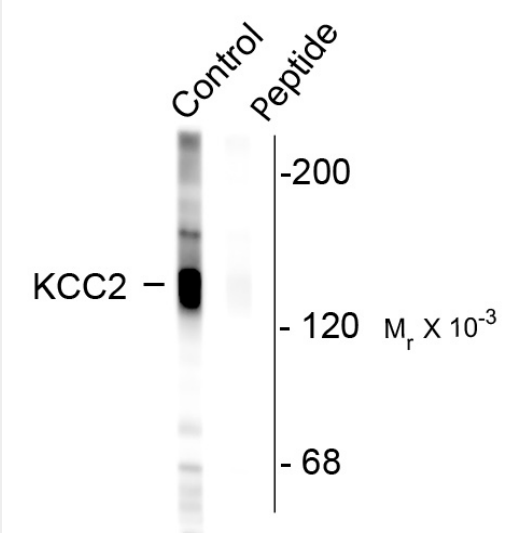
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody - Images



Flow cytometric analysis of PC-12 cells using Park7 (DJ-1) Antibody(green, Cat#AN1210) compared to an isotype control of rabbit IgG(blue). AN1210 was diluted at 1:500 dilution. An Alexa Fluor® 488 goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody.



Western blot of rat hippocampal homogenate showing specific labeling ofthe ~ 135k KCC2

protein (Control). Immunolabeling is blocked bypreadsorption with the phospho-peptide used as antigen (Peptide) butnot by the corresponding dephospho-peptide (not shown).

Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody - Background

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 (Lee et al., 2007).

Phospho-Ser940 Potassium Chloride Cotransporter (KCC2) Antibody - References

Lee HH, Walker JA, Williams JR, Goodier RJ, Payne JA, Moss SJ (2007) Direct protein kinase C-dependent phosphorylation regulates the cell surface stability and activity of the potassium chloride cotransporter KCC2. J Biol Chem. 2007 Oct 12;282(41):29777-84
Lee HH, Deeb TZ, Walker JA, Davies PA, Moss SJ (2011) NMDA receptor activity downregulates KCC2 resulting in depolarizing GABAA receptor-mediated currents. Nat Neurosci. Jun;14(6):736-43