

Anti-Phospho-Thr⁵³ NCC Antibody



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Catalog #: p1311-53

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Host	Applications	Species Tested	Species Reactivity*	Molecular Reference
Rabbit	WB 1:1000	M	GP, Ha	~160 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: The thiazide-sensitive sodium chloride cotransporter, NCC, is the major NaCl transport protein in the distal convoluted tubule (DCT) and plays an important role in maintaining blood pressure (Rosenbaek et al., 2014, Feng et al., 2015). Phosphorylation of NCC at Thr⁵³, Thr⁵⁸, and Ser⁷¹ is an essential mediator of NCC function (Rosenbaek et al., 2014). NCC is constitutively cycled to the plasma membrane, and upon stimulation, it can be phosphorylated to both increase NCC activity and decrease NCC endocytosis, together increasing NaCl transport in the DCT (Feng et al., 2015).

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Thr⁵³ of mouse NCC.

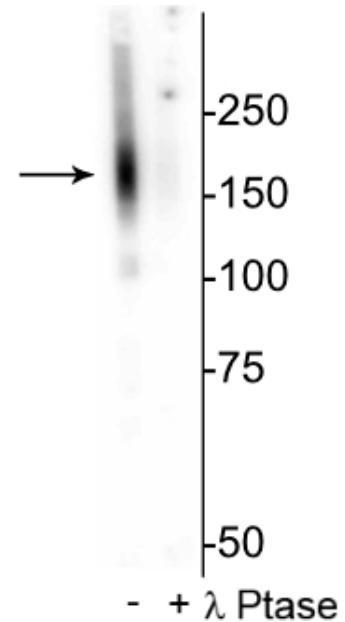
Antibody Specificity: Specific for endogenous levels of the ~160 kDa NCC protein phosphorylated at Thr⁵³. Band of interest smearing likely due to glycosylation. Immunolabeling is completely eliminated by treatment with λ-Ptase.

Purification Method: Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of mouse kidney lysate showing specific immunolabeling of the ~160 kDa NCC protein phosphorylated at Thr⁵³ in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is completely eliminated by blot treatment with *lambda* phosphatase (λ-Ptase, 1200 units for 30 min).

Product Specific References:

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Palygin, O., Levchenko, V., Ilatovskaya, D.V., Pavlov, T.S., Pochynyuk, M., Jacob, H.J., Geurts, A.M., Hodges, M.R. and Staruschenko, A., 2017. Essential role of Kir 5.1 channels in renal salt handling and blood pressure control. *JCI Insight*, 2(18).

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Terker AS, Zhang C, McCormick JA, Lazelle RA, Zhang C, Meermeier NP, Siler D, Park HJ, Fu Y, Cohen DM, Weinstein AM, Wang WH, Yang CL, Ellison DH. (2015) Potassium modulates electrolyte balance and blood pressure through effects on distal cell voltage and chloride. *Cell Metab*. (1):39-50.

General References

Feng X, Zhang Y, Shao N, Wang Y, Zhuang Z, Wu P, Lee MJ, Liu Y, Wang X, Zhuang J, Delpire E, Gu D, Cai H. (2015) Aldosterone modulates thiazide-sensitive sodium chloride cotransporter abundance via DUSP6-mediated ERK1/2 signaling pathway. *Am J Physiol Renal Physiol*. 308(10):F1119-27

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