

# CLC-K (K-18): sc-21293

## BACKGROUND

The family of voltage-dependent chloride channels (CLCs) regulate cellular trafficking of chloride ions, a critical component of all living cells. CLCs regulate excitability in muscle and nerve cells, aid in organic solute transport, and maintain cellular volume. CLC-KA is a kidney-specific chloride channel that mediates transepithelial chloride transport in the thin ascending limb of the Henle loop in the inner medulla. CLC-KA plays a crucial role in urine concentration. The gene encoding human CLC-KA maps to chromosome 1p36.13. Mutations in this gene may be associated with nephrogenic diabetes insipidus in those cases where mutations in the vasopressin  $V_2$  receptor and the AQP2 water channel are lacking. CLC-KB mediates basolateral chloride ion efflux in the thick ascending limb and in more distal nephron segments. The gene encoding human CLC-KB maps to chromosome 1p36.13. Mutations in this gene cause type III Bartter's syndrome which is characterized by renal salt-wasting and low blood pressure.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: CLCNKA/CLCNKB (human) mapping to 1p36.13; Clcnka/Clcnkb (mouse) mapping to 4 E1.

## SOURCE

CLC-K (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CLC-K of human origin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21293 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CLC-K (K-18) is recommended for detection of CLC-KA and CLC-KB of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

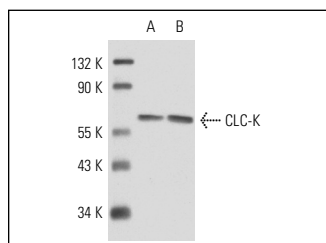
CLC-K (K-18) is also recommended for detection of CLC-KA and CLC-KB in additional species, including equine.

Molecular Weight of CLC-K: 63 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



CLC-K (K-18): sc-21293. Western blot analysis of CLC-K expression in KNRK (A) and NRK (B) whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.