

Barttin (S-20): sc-49611

BACKGROUND

The BSND gene encodes Barttin, a protein comprised of two putative trans-membrane α helices. Barttin expression is detected in the thin limb and thick ascending limb of the loop of Henle in the kidney, and in the dark cells of the inner ear. The BSND gene is mutated in Bartter syndrome, a genetic disease characterized by hypokalemia, metabolic alkalosis and normal to low blood pressure, which occurs with sensorineural deafness, irreversible hearing loss due to cochlear sensorineural or cochlear nerve damage. Barttin acts as an essential β subunit for CLCKNA and CLCKNB chloride channels, with which it co-localizes in basolateral membranes of renal tubules and of potassium-secreting epithelia of the inner ear. Mutations in either CLCKNB or Barttin compromise currents through heteromeric channels that can be stimulated further by mutating a proline-tyrosine (PY) motif on Barttin. Heteromers formed by chloride channels and Barttin are essential for renal salt reabsorption and potassium recycling in the inner ear.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606412. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Miyamura, N., et al. 2003. Atypical Bartter syndrome with sensorineural deafness with G47R mutation of the β subunit for ClC-Ka and ClC-Kb chloride channels, Barttin. *J. Clin. Endocrinol. Metab.* 88: 781-786.
4. Wolf, K., et al. 2003. Parallel downregulation of chloride channel CLCK1 and Barttin mRNA in the thin ascending limb of the rat nephron by furosemide. *Pflugers Arch.* 446: 665-671.
5. Liantonio, A., et al. 2004. Investigations of pharmacologic properties of the renal CLCK1 chloride channel co-expressed with Barttin by the use of 2-(p-Chlorophenoxy) propionic acid derivatives and other structurally unrelated chloride channels blockers. *J. Am. Soc. Nephrol.* 15: 13-20.
6. Embark, H.M., et al. 2004. Regulation of CLCKA/Barttin by the ubiquitin ligase Nedd4-2 and the serum- and glucocorticoid-dependent kinases. *Kidney Int.* 66: 1918-1925.
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CHROMOSOMAL LOCATION

Genetic locus: BSND (human) mapping to 1p32.3; Bsnd (mouse) mapping to 4 C7.

SOURCE

Barttin (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Barttin of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49611 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Barttin (S-20) is recommended for detection of Barttin isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg 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).

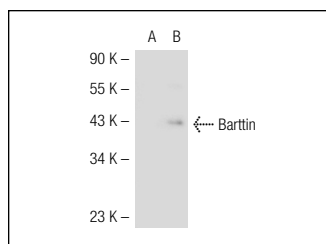
Barttin (S-20) is also recommended for detection of Barttin isoforms 1 and 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Barttin siRNA (h): sc-60245, Barttin siRNA (m): sc-60246, Barttin shRNA Plasmid (h): sc-60245-SH, Barttin shRNA Plasmid (m): sc-60246-SH, Barttin shRNA (h) Lentiviral Particles: sc-60245-V and Barttin shRNA (m) Lentiviral Particles: sc-60246-V.

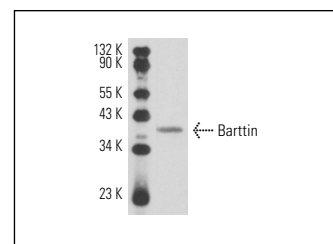
Molecular Weight of Barttin: 35 kDa.

Positive Controls: Barttin (m): 293T Lysate: sc-125028 or rat kidney extract: sc-2394.

DATA



Barttin (S-20): sc-49611. Western blot analysis of Barttin expression in non-transfected: sc-117752 (A) and mouse Barttin transfected: sc-125028 (B) 293T whole cell lysates.



Barttin (S-20): sc-49611. Western blot analysis of Barttin expression in rat kidney tissue extract.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **Barttin (A-1): sc-271867** or **Barttin (A-3): sc-365161**, our highly recommended monoclonal alternatives to Barttin (S-20).