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# H<sup>+</sup>/K<sup>+</sup> ATPase $\beta$ (h): 293T Lysate: sc-170047

## BACKGROUND

The gastric H<sup>+</sup>/K<sup>+</sup> ATPase exists as a heterodimer consisting of an  $\alpha$  and a  $\beta$  subunit that work in tandem to transport protons across plasma membranes. H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$ , also known as ATP4B or ATP6B, is a 291 amino acid single-pass type II membrane protein that functions as the  $\beta$  subunit of the H<sup>+</sup>/K<sup>+</sup> ATPase heterodimer. Working with the  $\alpha$  subunit, H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$  effectively catalyzes the hydrolysis of ATP coupled with the exchange of H<sup>+</sup> and K<sup>+</sup> ions across the plasma membrane and plays an essential role in gastric acid secretion. The gene encoding H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$  maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

## REFERENCES

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3. Song, L., et al. 1992. Mapping of the gene encoding the  $\beta$ -subunit of H<sup>+</sup>/K<sup>+</sup> ATPase to human chromosome 13q34 by fluorescence *in situ* hybridization. *Genomics* 14: 1114-1115.
4. Callaghan, J.M., et al. 1995. Renal expression of the gene encoding the gastric H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$ -subunit. *Am. J. Physiol.* 268: F363-F374.
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6. Asano, S., et al. 2000. The roles of carbohydrate chains of the  $\beta$ -subunit on the functional expression of gastric H<sup>+</sup>/K<sup>+</sup> ATPase. *J. Biol. Chem.* 275: 8324-8330.
7. Asano, S., et al. 2004. Molecular and cellular regulation of the gastric proton pump. *Biol. Pharm. Bull.* 27: 1-12.
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## CHROMOSOMAL LOCATION

Genetic locus: ATP4B (human) mapping to 13q34.

## PRODUCT

H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$  (h): 293T Lysate represents a lysate of human H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20 $^{\circ}$  C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$  (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive H<sup>+</sup>/K<sup>+</sup> ATPase  $\beta$  antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## RESEARCH USE

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

## PROTOCOLS

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