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Product Information

Monoclonal Anti-Na^+/K^+-ATPase (β1 Subunit) antibody produced in mouse
clone M17-P5-F11

Catalog Number **A278**

Product Description

Monoclonal Anti-Na^+/K^+-ATPase (β1 Subunit) is produced by immunizing mice with purified lamb kidney β subunit as the immunogen.

This antibody reacts with the β1 subunit of Na^+/K^+ ATPase in human, sheep, canine and pig, but not rat. Shows no reactivity with rat β2 subunit. In immunoblotting, detects the β1 subunit of Na^+/K^+ ATPase as a 42 kDa band in liver samples and a 52 kDa band in kidney samples. Epitope mapping studies indicate the epitope is between amino acids 195 and 199 of the lamb kidney Na^+/K^+ ATPase β subunit.

The Na^+/K^+-ATPase is an integral membrane enzyme found in all cells of higher organisms and is responsible for ATP-dependent transport of Na^+ and K^+ across cell membranes. This membrane-bound enzyme is related to a number of other ATPases including the SERCA and PMCA. The Na^+/K^+-ATPase consists of a large, multipass, transmembrane catalytic subunit, termed the α subunit, and an associated smaller glycoprotein, termed the β subunit. Studies indicate that there are three isoforms of the α subunit (α1, α2, α3) and two isoforms of the β subunit (β1 and β2) encoded by two multigene families.

Different isoforms of the Na^+/K^+-ATPase exhibit tissue-specific and developmental patterns of expression. The α1 and β mRNAs are present in all cell types examined, whereas the α2 and α3 mRNAs exhibit a more restricted pattern of cell-specific expression. The α subunit has been found in kidney, brain, heart, and to a lesser extent liver, skeletal and smooth muscle.

Reagents

Monoclonal Anti-Na^+/K^+-ATPase (β1 subunit) is a solution in phosphate buffered saline (PBS), with 1mg/ml BSA and contains 0.05% sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at -20 °C for up to one month. For extended storage, solution may be frozen in working aliquots. Storage in "frost-free" freezers, or repeated freezing and thawing, is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Product Profile

Recommended starting titers:

Immunoblotting: 1:1,000 – 1:10,000
Immunohistochemistry: 1:100

References

1. Sun, Y. et al. "Determination of Na^+/K^+ ATPase α- and β-isoforms and kinetic properties in mammalian liver." *Am. J. Physiol.* **262**, C1491-C1499 (1992).
2. Mobasheri, A. et al. "Characterization of the Na^+/K^+ ATPase in isolated bovine articular chondrocytes; molecular evidence for multiple α and β isoforms." *Cell Biol. Int.* **21**, 201-212 (1997).
3. Marxer, A. et al. "Na^+/K^+ ATPase and plasma membrane polarity of intestinal epithelial cells: presence of a brush border antigen in the distal large intestine that is immunologically related to β subunit." *J. Cell Biol.* **109**, 1057-1069 (1989).

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