

FXYD2 (ZW-5): sc-81876

BACKGROUND

The human FXYD2 (pronounced fix-id) gene maps to chromosome 11q23 and encodes the γ subunit of Na/K-ATPase (NKA). FXYD2 γ subunit modulates NKA activity by inducing ion channel activity. The mammalian FXYD family maintains Na⁺ and K⁺ gradients between the intracellular and extracellular milieus of cells in processes such as renal Na⁺-reabsorption, muscle contraction and neuronal excitability. FXYDs are single-span membrane proteins that share a 35 amino acid signature domain, beginning with the sequence PFXYD and containing 7 invariant and 6 conserved amino acids. Other members of the FXYD family include FXYD1 (PLM, phospholemman), FXYD3 (Mat8, mammary tumor protein 8 kDa), FXYD4 (CHIF) and FXYD5 (RIC).

REFERENCES

1. Sweadner, K.J., et al. 2000. The FXYD gene family of small ion transport regulators or channels: cDNA sequence, protein signature sequence, and expression. *Genomics* 68: 41-56.
2. Beguin, P., et al. 2001. CHIF, a member of the FXYD protein family, is a regulator of Na/K-ATPase distinct from the γ -subunit. *EMBO J.* 20: 3993-4002.
3. Crambert, G., et al. 2002. Phospholemman (FXYD1) associates with Na/K-ATPase and regulates its transport properties. *Proc. Natl. Acad. Sci. USA* 99: 11476-11481.
4. Crambert, G., et al. 2003. FXYD proteins: new tissue-specific regulators of the ubiquitous Na/K-ATPase. *Sci. STKE* 2003: RE1.
5. Crowell, K.J., et al. 2003. Expression and characterization of the FXYD ion transport regulators for NMR structural studies in lipid micelles and lipid bilayers. *Biochim. Biophys. Acta* 1645: 15-21.
6. Lindzen, M., et al. 2003. Structure-function relations of interactions between Na/K-ATPase, the γ subunit and CHIF. *J. Biol. Chem.* 278: 18738-18743.

CHROMOSOMAL LOCATION

Genetic locus: FXYD2 (human) mapping to 11q23.3.

SOURCE

FXYD2 (ZW-5) is a mouse monoclonal antibody raised against amino acids 1-65 representing full length FXYD2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

FXYD2 (ZW-5) is recommended for detection of FXYD2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FXYD2 siRNA (h): sc-42422, FXYD2 shRNA Plasmid (h): sc-42422-SH and FXYD2 shRNA (h) Lentiviral Particles: sc-42422-V.

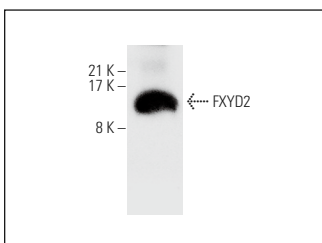
Molecular Weight of FXYD2: 7 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human kidney extract: sc-363764.

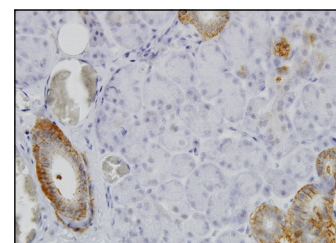
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



FXYD2 (ZW-5): sc-81876. Western blot analysis of FXYD2 expression in human kidney tissue extract.



FXYD2 (ZW-5): sc-81876. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human salivary gland tissue showing membrane localization.

SELECT PRODUCT CITATIONS

1. Gaut, J.P., et al. 2013. Expression of the Na⁺/K⁺-transporting ATPase γ subunit FXYD2 in renal tumors. *Mod. Pathol.* 26: 716-724.
2. Garcia, I.J.P., et al. 2023. Effect of ouabain on glutamate transport in the hippocampus of rats with LPS-induced neuroinflammation. *Biomedicines* 11: 920.

RESEARCH USE

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