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## Proton ATPase 116 kDa subunit

Cat.No. 109 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

## **Data Sheet**

| Reconstitution/<br>Storage | 200 $\mu l$ antiserum, lyophilized. For reconstitution add 200 $\mu l$ $H_2O,$ then aliquot and store at -20°C until use.       |
|----------------------------|---|
| Applications               | WB: 1 : 1000 (AP staining) (see remarks)<br>IP: not tested yet<br>ICC: 1 : 100 (see remarks)<br>IHC: yes<br>IHC-P/FFPE: 1 : 200 |
| Immunogen                  | Synthetic peptide corresponding to AA 826 to 838 from rat Proton ATPase<br>(UniProt Id: P25286)                                 |
| Reactivity                 | Reacts with: rat (P25286), mouse (Q9Z1G4), hamster.<br>Other species not tested yet.  |
| Specificity                | Specific for the a1 116kDa subunit. (K.D. verified)   |
| matching<br>control        | 109-0P  |
| Remarks                    | <b>WB</b> : The proton pump aggregates after boiling, making it necessary to run SDS-<br>PAGE only with non-boiled samples.     |
|                            | ICC: Methanol fixation is recommended.  |

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

The **Proton ATPase**, also referred to as **vacuolar proton pump**, is involved in the acidification of many intracellular organelles. The pump is composed of more than 10 subunits, of which the 116 kDa subunit is the largest. This subunit has an N-terminal cytoplasmic domain and a C-terminal transmembrane domain with probably 6 transmembrane regions. The 116 kDa subunit is essential for proton pump activity.

## Selected References SYSY Antibodies

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins. Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.

Science (New York, N.Y.) (2014) 344(6187): 1023-8. WB, ICC, IHC; tested species: mouse,rat

Lysosomal proteolysis and autophagy require presenilin 1 and are disrupted by Alzheimer-related PS1 mutations. Lee JH, Yu WH, Kumar A, Lee S, Mohan PS, Peterhoff CM, Wolfe DM, Martinez-Vicente M, Massey AC, Sovak G, Uchiyama Y, et al. Cell (2010) 141(7): 1146-58. **WB, ICC; tested species: mouse** 

Tetanus toxin is transported in a novel neuronal compartment characterized by a specialized pH regulation. Bohnert S, Schiavo G

The Journal of biological chemistry (2005) 280(51): 42336-44. WB, ICC; tested species: rat

Newly produced synaptic vesicle proteins are preferentially used in synaptic transmission. Truckenbrodt S, Viplav A, Jähne S, Vogts A, Denker A, Wildhagen H, Fornasiero EF, Rizzoli SO The EMBO journal (2018) : . **ICC; tested species: rat** 

Mycobacterium tuberculosis exploits asparagine to assimilate nitrogen and resist acid stress during infection. Gouzy A, Larrouy-Maumus G, Bottai D, Levillain F, Dumas A, Wallach JB, Caire-Brandli I, de Chastellier C, Wu TD, Poincloux R, Brosch R, et al.

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BAX inhibitor-1-associated V-ATPase glycosylation enhances collagen degradation in pulmonary fibrosis. Lee MR, Lee GH, Lee HY, Kim DS, Chung MJ, Lee YC, Kim HR, Chae HJ Cell death & disease (2014) 5: e1113. **WB; tested species: human** 

Loss of the SV2-like protein SVOP produces no apparent deficits in laboratory mice. Yao J, de la Iglesia HO, Bajjalieh SM PloS one (2013) 8(7): e68215. **WB; tested species: mouse** 

The neural cell adhesion molecule promotes maturation of the presynaptic endocytotic machinery by switching synaptic vesicle recycling from adaptor protein 3 (AP-3)- to AP-2-dependent mechanisms. Shetty A, Sytnyk V, Leshchyns'ka I, Puchkov D, Haucke V, Schachner M

The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(42): 16828-45. WB; tested species: mouse

A role for presenilins in autophagy revisited: normal acidification of lysosomes in cells lacking PSEN1 and PSEN2. Zhang X, Garbett K, Veeraraghavalu K, Wilburn B, Gilmore R, Mirnics K, Sisodia SS The Journal of neuroscience : the official journal of the Society for Neuroscience (2012) 32(25): 8633-48. **WB** 

Vacuolar H(+)-ATPase subunits Voa1 and Voa2 cooperatively regulate secretory vesicle acidification, transmitter uptake, and storage.

Saw NM, Kang SY, Parsaud L, Han GA, Jiang T, Grzegorczyk K, Surkont M, Sun-Wada GH, Wada Y, Li L, Sugita S, et al. Molecular biology of the cell (2011) 22(18): 3394-409. **WB; KD verified; tested species: rat** 

Phthiocerol dimycocerosates of M. tuberculosis participate in macrophage invasion by inducing changes in the organization of plasma membrane lipids.

Astarie-Dequeker C, Le Guyader L, Malaga W, Seaphanh FK, Chalut C, Lopez A, Guilhot C PLoS pathogens (2009) 5(2): e1000289. **ICC; tested species: human** 

Differential sorting of the vesicular glutamate transporter 1 into a defined vesicular pool is regulated by light signaling involving the clock gene Period2.

Yelamanchili SV, Pendyala G, Brunk I, Darna M, Albrecht U, Ahnert-Hilger G The Journal of biological chemistry (2006) 281(23): 15671-9. **WB; tested species: mouse** 

Immunoisolation of two synaptic vesicle pools from synaptosomes: a proteomics analysis. Morciano M, Burré J, Corvey C, Karas M, Zimmermann H, Volknandt W Journal of neurochemistry (2005) 95(6): 1732-45. **WB; tested species: rat** 

Genetic analysis of the neuronal and ubiquitous AP-3 adaptor complexes reveals divergent functions in brain. Seong E, Wainer BH, Hughes ED, Saunders TL, Burmeister M, Faundez V Molecular biology of the cell (2005) 16(1): 128-40. **WB; tested species: mouse** 

## **Selected General References**

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Synaptic vesicles and exocytosis. Jahn R, Südhof TC Annual review of neuroscience (1994) 17: 219-46.