

# MT-ATP8 (K-15): sc-84231

## BACKGROUND

Mitochondrial ATP synthase is composed of two multi-subunit complexes that utilize an inner membrane electrochemical gradient to catalyze the synthesis of ATP during oxidative phosphorylation. The two multi-subunit complexes are designated  $F_1$  and  $F_0$ , the former of which comprises the soluble catalytic core and the latter of which comprises the membrane-spanning proton channel of ATP synthase. MT-ATP8, also known as ATP8, ATPASE8 or MTATP8, is a 68 amino acid single-pass membrane protein that localizes to mitochondria and functions as a minor subunit of the  $F_0$  complex. The gene encoding MT-ATP8 maps to the mitochondrial chromosome and may be involved in the pathogenesis of multiple sclerosis.

## REFERENCES

- Ingman, M., Kaessmann, H., Pääbo, S. and Gyllensten, U. 2000. Mitochondrial genome variation and the origin of modern humans. *Nature* 408: 708-713.
- Ishikawa, Y., Kashiwase, K., Okai, M., Ogawa, A., Akaza, T., Morishima, Y., Inoko, H., Sasazuki, T., Kodera, Y. and Juji, T. 2001. Polymorphisms in the coding region of mtDNA and effects on clinical outcome of unrelated bone marrow transplantation. *Bone Marrow Transplant.* 28: 603-607.
- Kamalidehghan, B., Houshmand, M., Ismail, P., Panahi, M.S. and Akbari, M.H. 2006.  $\delta$  mtDNA4977 is more common in non-tumoral cells from gastric cancer sample. *Arch. Med. Res.* 37: 730-735.
- Cao, S.Y., Wu, X.B., Yan, P., Hu, Y.L., Su, X. and Jiang, Z.G. 2006. Complete nucleotide sequences and gene organization of mitochondrial genome of *Bufo gargarizans*. *Mitochondrion* 6: 186-193.
- Robison, M.M. and Wolyn, D.J. 2006. Petaloid-type cms in carrot is not associated with expression of ATP8 (OrfB). *Theor. Appl. Genet.* 112: 1496-1502.
- Ahari, S.E., Houshmand, M., Panahi, M.S., Kasraie, S., Moin, M. and Bahar, M.A. 2007. Investigation on mitochondrial tRNA(Leu/Lys), NDI and ATPase 6/8 in Iranian multiple sclerosis patients. *Cell. Mol. Neurobiol.* 27: 695-700.
- Woo, H.J., Lee, Y.S., Park, S.J., Lim, J.T., Jang, K.H., Choi, E.H., Choi, Y.G. and Hwang, U.W. 2007. Complete mitochondrial genome of a troglodite millipede *Antrokoreana gracilipes* (*Diplopoda*, *Juliformia*, *Julida*), and juliformian phylogeny. *Mol. Cells* 23: 182-191.

## CHROMOSOMAL LOCATION

Genetic locus: ATP8 (human) mapping to MT.

## SOURCE

MT-ATP8 (K-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MT-ATP8 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, ready P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

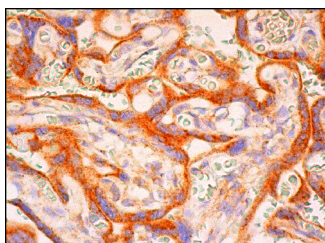
MT-ATP8 (K-15) is recommended for detection of MT-ATP8 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other ATP family members.

Molecular Weight of ATP8: 8 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



MT-ATP8 (K-15): sc-84231. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of cytoplasmic cells.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.