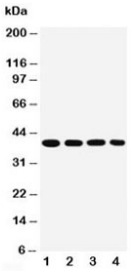
MTCO1 Antibody (R30376)

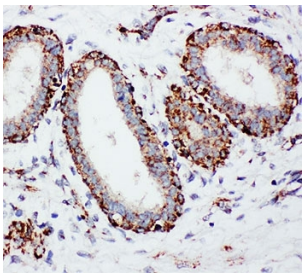
Catalog No.	Formulation	Size
R30376	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

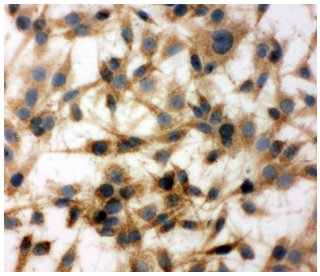
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide/thimerosal
UniProt	P00395
Localization	Cytoplasmic (mitochondrial)
Applications	Western Blot : 0.5-1ug/ml IHC (FFPE) : 0.5-1ug/ml Immunocytochemistry : 0.5-1ug/ml
Limitations	This MTCO1 antibody is available for research use only.



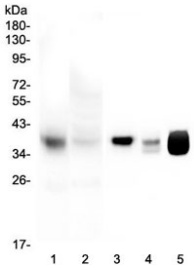
Western blot testing of human 1) SMMC-7721, 2) MCF-7, 3) Raji and 4) SW620 cell lysate with MTCO1 antibody. Predicted molecular weight ~57 kDa, also observed at ~40 kDa (ref. 1).



IHC-P: MTCO1 antibody testing of human breast cancer tissue



ICC testing of rat C6 cells with MTCO1 antibody.



Western blot testing of 1) human HeLa mitochondrial enriched fraction (20ug/lane), 2) human HeLa whole cell lysate (20ug/lane), 3) human Caco-2 whole cell lysate (50ug/lane), 4) rat heart whole cell lysate and 5) mouse heart whole cell lysate with MTCO1 antibody. Predicted molecular weight ~57 kDa, also observed at ~40 kDa (ref. 1).

Description

Cytochrome c oxidase subunit I (also called CO1, COX1, COXI and MTCO1) is 1 of 3 mitochondrial DNA (mtDNA) encoded subunits (MTCO1, MTCO2, MTCO3) of respiratory Complex IV. Complex IV is located within the mitochondrial inner membrane and is the third and final enzyme of the electron transport chain of mitochondrial oxidative phosphorylation. It is composed of 13 polypeptides. Subunits I, II, and III (MTCO1, MTCO2, MTCO3) are encoded by mtDNA while subunits IV, Va, Vb, VIa, VIb, VIc, VIIa, VIIb, VIIc, and VIII are nuclear encoded. The cytochrome c oxidase family of enzymes have 4 redox centers, 2 hemes and 2 copper centers. In mitochondrial Complex IV, the 2 hemes are a and a3 and the 2 coppers are CuA and CuB. The 2 hemes and CuB are bound to subunit I. Acin-Perez et al.(2003) identified a cell line containing single and double missense mutations in the cytochrome c oxidase(COX) subunit I gene of mouse mitochondrial DNA. And they hypothesized that deleterious mutations can arise and become predominant; cultured cells can maintain several mtDNA haplotypes at stable frequencies; the respiratory chain has little spare COX capacity; and that the size of a cavity in the vicinity of val421 in MTCO1I of animal COX may affect the function of the enzyme.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the MTCO1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of the human protein (PYHTFEEPVYMKS) was used as the immunogen for this MTCO1 antibody.

Storage

After reconstitution, the MTCO1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

References (1)