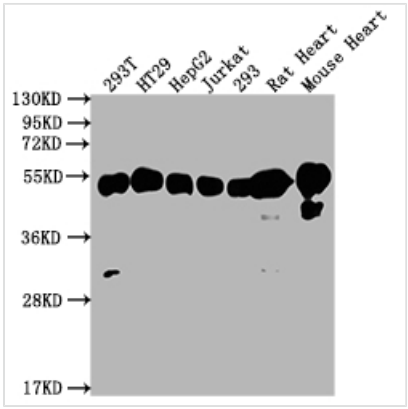
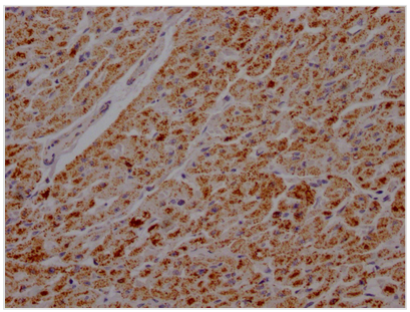
ATP5B Recombinant Monoclonal Antibody

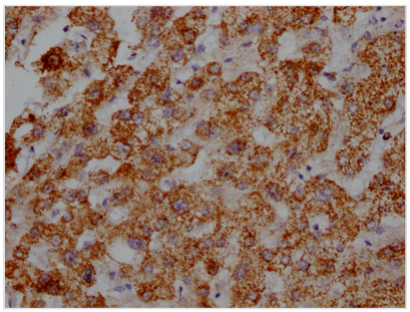
Product Code	CSB-RA216446A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P06576
Immunogen	A synthesized peptide derived from human ATPB
Species Reactivity	Human, Mouse, Rat
Tested Applications	ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200
Relevance	Mitochondrial membrane ATP synthase (F(1)F(0) ATP synthase or Complex V) produces ATP from ADP in the presence of a proton gradient across the membrane which is generated by electron transport complexes of the respiratory chain. F-type ATPases consist of two structural domains, F(1) - containing the extramembraneous catalytic core, and F(0) - containing the membrane proton channel, linked together by a central stalk and a peripheral stalk. During catalysis, ATP synthesis in the catalytic domain of F(1) is coupled via a rotary mechanism of the central stalk subunits to proton translocation. Subunits alpha and beta form the catalytic core in F(1). Rotation of the central stalk against the surrounding alpha(3)beta(3) subunits leads to hydrolysis of ATP in three separate catalytic sites on the beta subunits.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cancer; Tags & Cell Markers; Metabolism; Signal transduction
Gene Names	ATP5B
Clone No.	5F10
Image	



Western Blot
Positive WB detected in: 293T whole cell lysate, HT29 whole cell lysate, HepG2 whole cell lysate, Jurkat whole cell lysate, 293 whole cell lysate, Rat Heart tissue, Mouse Heart tissue
All lanes: ATP5F1B antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 57 kDa
Observed band size: 57 kDa



IHC image of CSB-RA216446A0HU diluted at 1:100 and staining in paraffin-embedded human heart tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



IHC image of CSB-RA216446A0HU diluted at 1:100 and staining in paraffin-embedded human liver tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The ATP5B recombinant monoclonal antibody is produced using recombinant DNA technology and is ideal for identifying ATP5B protein from human, mouse, and rat samples in ELISA, WB, and IHC assays. The cDNA of ATP5B antibody-producing hybridomas is sequenced, and the gene coding for the ATP5B monoclonal antibody is synthesized. Myeloma cells are fused with B cells from an animal that was immunized with a synthesized peptide derived from human ATP5B to produce the hybridomas. The synthesized gene is then cloned into a vector and then transfected into cells for cultivation. The resulting ATP5B recombinant monoclonal antibody is purified through affinity chromatography from the cell culture supernatant.

The ATP5B protein is a component of the ATP synthase complex, which is responsible for generating ATP in the mitochondrial inner membrane by utilizing the energy from the proton gradient created by the electron transport chain. Specifically, ATP5B forms a catalytic core of the complex along with four other subunits, and it provides the binding sites for ADP and phosphate to produce

ATP. The ATP5B protein is essential for oxidative phosphorylation, which is the main source of ATP production in cells.