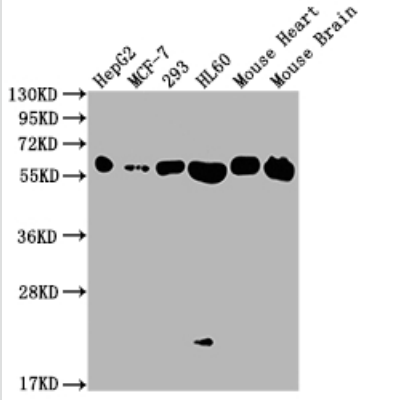
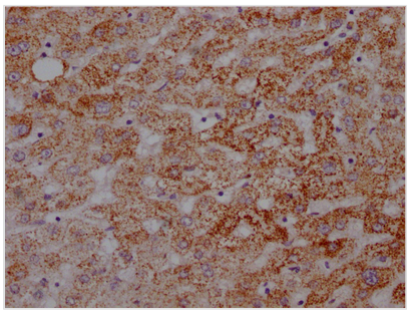
ATP5A1 Antibody

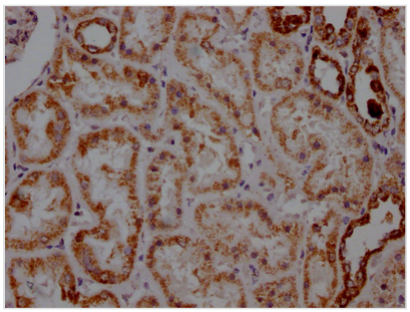
Product Code	CSB-RA159926A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P25705
Immunogen	A synthesized peptide derived from human ATP5A1
Species Reactivity	Human, Mouse
Tested Applications	ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200
Relevance	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. Subunit alpha does not bear the catalytic high-affinity ATP-binding sites (By similarity).
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	ATP5A1
Accession NO.	5G11
Image	



Western Blot
Positive WB detected in: HepG2 whole cell lysate, MCF-7 whole cell lysate, 293 whole cell lysate, HL60 whole cell lysate, Mouse Heart tissue, Mouse Brain tissue
All lanes: ATP5F1A antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 60, 55, 58 kDa
Observed band size: 60 kDa



IHC image of CSB-RA159926A0HU 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°C 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-RA159926A0HU diluted at 1:100 and staining in paraffin-embedded human kidney 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°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

ATP5A1 is a subunit of mitochondrial ATP synthase. It's overrepresented in a carcinogenesis and tumor progression-related oxidative phosphorylation pathway. Although ATP5A1 expression has been found to be dysregulated in a variety of cancers, it has been shown to play either an oncogenic or tumor-suppressing role in many cancer types. Overexpression of ATP5A1 is linked to progression in clear cell renal cell carcinoma and breast cancer progression and metastasis, making it a potential biomarker for diagnosis, prognosis, and therapy response. In prostate cancer, ATP5A1 levels show a positive relationship with the early onset of the tumor cells. High ATP5A1 expression is linked to SNPs, TP53 mutations, and chromosomal instability in colorectal cancer, facilitating tumor formation.

The generation of the recombinant ATP5A1 antibody includes obtaining the ATP5A1 antibody gene, cloning the gene into a plasma vector, introducing the recombinant vector into mammalian cell lines, and achieving expression of adequate amounts of functional antibody. The recombinant ATP5A1 antibody

was purified using A synthesized peptide derived from human ATP5A1. It is reactive with the ATP5A1 protein from Human, Mouse and is suitable for the use in the ELISA, WB, IHC.