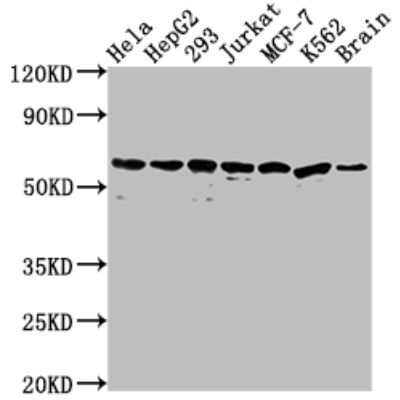
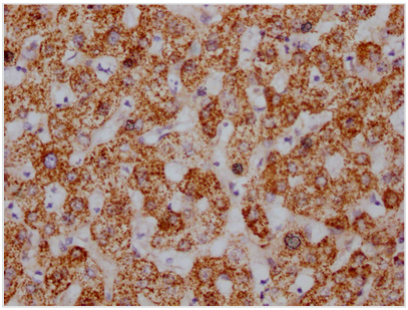
HSPD1 Recombinant Monoclonal Antibody

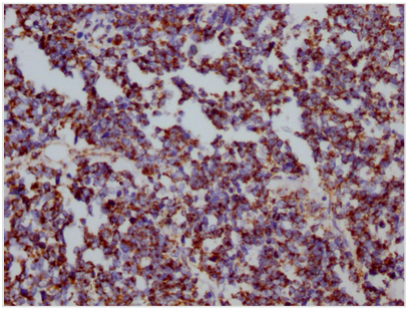
Product Code	CSB-RA953395A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P10809
Immunogen	A synthesized peptide derived from human Hsp60
Species Reactivity	Human, Mouse
Tested Applications	ELISA, WB, IHC, IP; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IP:1:200-1:1000
Relevance	Chaperonin implicated in mitochondrial protein import and macromolecular assembly. Together with Hsp10, facilitates the correct folding of imported proteins. May also prevent misfolding and promote the refolding and proper assembly of unfolded polypeptides generated under stress conditions in the mitochondrial matrix (PubMed:1346131, PubMed:11422376). The functional units of these chaperonins consist of heptameric rings of the large subunit Hsp60, which function as a back-to-back double ring. In a cyclic reaction, Hsp60 ring complexes bind one unfolded substrate protein per ring, followed by the binding of ATP and association with 2 heptameric rings of the co-chaperonin Hsp10. This leads to sequestration of the substrate protein in the inner cavity of Hsp60 where, for a certain period of time, it can fold undisturbed by other cell components. Synchronous hydrolysis of ATP in all Hsp60 subunits results in the dissociation of the chaperonin rings and the release of ADP and the folded substrate protein (Probable).
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	Isotype/Loading Controls; Tags & Cell Markers; Signal transduction
Gene Names	HSPD1
Clone No.	3D8
Image	



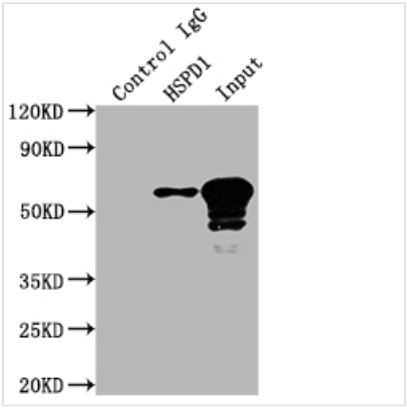
Western Blot
Positive WB detected in: Hela whole cell lysate, HepG2 whole cell lysate, 293 whole cell lysate, Jurkat whole cell lysate, MCF-7 whole cell lysate, K562 whole cell lysate, Mouse brain tissue
All lanes: HSPD1 antibody at 1:2000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 62, 18 kDa
Observed band size: 60 kDa



IHC image of CSB-RA953395A0HU 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.



IHC image of CSB-RA953395A0HU diluted at 1:100 and staining in paraffin-embedded human liver cancer 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.



Immunoprecipitating HSPD1 in HepG2 whole cell lysate
Lane 1: Rabbit control IgG instead of CSB-RA953395A0HU in HepG2 whole cell lysate. For western blotting,a HRP-conjugated Protein G antibody was used as the secondary antibody (1/2000)
Lane 2: CSB-RA953395A0HU(3μg)+ HepG2 whole cell lysate(500μg)
Lane 3: HepG2 whole cell lysate (10μg)

Description

The HSPD1 recombinant monoclonal antibody is produced using protein and DNA recombinant technology. Initially, a synthesized peptide derived from human Hsp60 was used to immunize mice. After some time, the spleen of the mice was aseptically removed and the total RNA of spleen cells was extracted.

The cDNA obtained from RNA reverse transcription served as the template for PCR amplification of the HSPD1 antibody gene. The HSPD1 antibody gene was then cloned into a vector, which was subsequently transfected into host cells for culture. The HSPD1 recombinant monoclonal antibody was purified from the cell culture supernatant using affinity chromatography. It has been rigorously tested and validated for its ability to detect human and mouse HSPD1 protein in ELISA, WB, and IHC, IP experiments.

The HSPD1 protein, also known as Hsp60, is a molecular chaperone that plays a key role in protein folding and assembly in the mitochondria of eukaryotic cells. It is involved in the folding and refolding of newly synthesized or denatured proteins. HSPD1 is a barrel-shaped protein complex that forms a cavity inside which unfolded or partially folded proteins can be properly folded in an ATP-dependent manner. In addition to its role in protein folding, HSPD1 has also been implicated in other cellular processes, including cell signaling, apoptosis, and immune response.