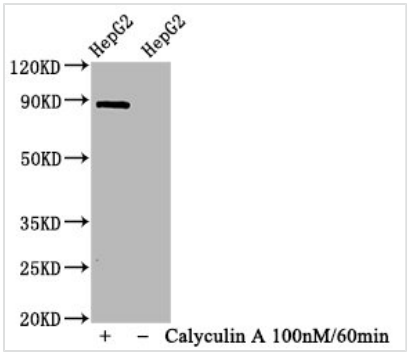
Phospho-STAT1 (S727) Recombinant Monoclonal Antibody

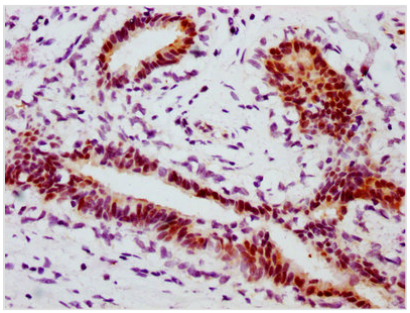
Product Code	CSB-RA022810A727phHU
Abbreviation	Signal transducer and activator of transcription 1-alpha/beta
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P42224
Immunogen	A synthesized peptide derived from Human Phospho-STAT1 (S727)
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC, IF; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IF:1:20-1:200
Relevance	Signal transducer and transcription activator that mediates cellular responses to interferons (IFNs), cytokine KITLG/SCF and other cytokines and other growth factors. Following type I IFN (IFN-alpha and IFN-beta) binding to cell surface receptors, signaling via protein kinases leads to activation of Jak kinases (TYK2 and JAK1) and to tyrosine phosphorylation of STAT1 and STAT2. The phosphorylated STATs dimerize and associate with ISGF3G/IRF-9 to form a complex termed ISGF3 transcription factor, that enters the nucleus (PubMed:28753426). ISGF3 binds to the IFN stimulated response element (ISRE) to activate the transcription of IFN-stimulated genes (ISG), which drive the cell in an antiviral state. In response to type II IFN (IFN-gamma), STAT1 is tyrosine- and serine-phosphorylated (PubMed:26479788). It then forms a homodimer termed IFN-gamma-activated factor (GAF), migrates into the nucleus and binds to the IFN gamma activated sequence (GAS) to drive the expression of the target genes, inducing a cellular antiviral state. Becomes activated in response to KITLG/SCF and KIT signaling. May mediate cellular responses to activated FGFR1, FGFR2, FGFR3 and FGFR4.
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
Alias	Signal transducer and activator of transcription 1-alpha/beta, Transcription factor ISGF-3 components p91/p84, STAT1
Immunogen Species	Homo sapiens (Human)
Research Area	Signal Transduction
Gene Names	STAT1

Clone No. 2H10

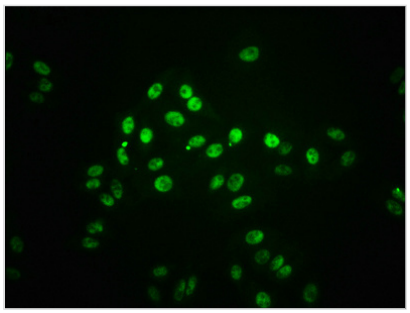
Image



Western Blot
Positive WB detected in HepG2 whole cell lysate(treated with Calyculin A or not)
All lanes Phospho-STAT1 antibody at 1.065µg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 87 KDa
Observed band size: 87 KDa



IHC image of CSB-RA022810A727phHU diluted at 1:100 and staining in paraffin-embedded human breast 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 biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunofluorescence staining of HepG2 cells(treated with 100mM Calyculin A for 30min) with CSB-RA022810A727phHU at 1:66,counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

The creation of the phospho-STAT1 (S727) recombinant monoclonal antibody involves the utilization of protein technology and DNA recombinant techniques. The procedure begins with the immunization of animals using a synthesized peptide derived from human phospho-STAT1 (S727). Next, B cells are isolated from the immunized mice. Positive B cells are then selected and subjected to single clone identification. The light and heavy chains of the phospho-STAT1 (S727) antibody are amplified using PCR and inserted into a plasmid vector to create a recombinant vector, which is subsequently transfected into host cells to facilitate antibody expression. Finally, the phospho-STAT1 (S727) recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. It has been validated for use in ELISA, WB, IHC, and IF to detect human STAT1 phosphorylated at S727 residue.