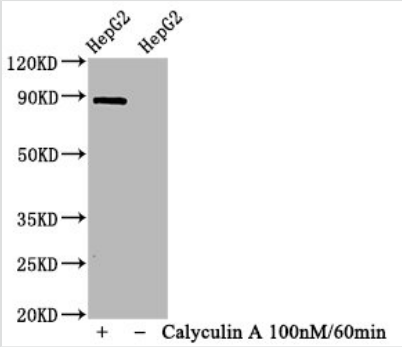
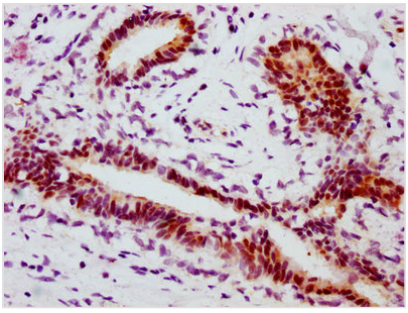
Phospho-STAT1 (S727) Antibody

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
Accession NO.	2H10

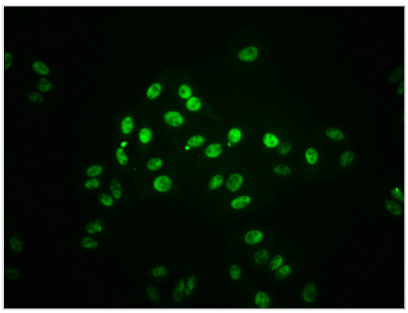
Image



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°C 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°C. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

CUSABIO cloned the DNA sequence encoding the pS727-STAT1 monoclonal antibody into the plasmid and then transfected into the cell line for expression. The product is the recombinant phospho-STAT1 (S727) monoclonal antibody. It belongs to the rabbit IgG and is purified through the affinity-chromatography method. This phospho-STAT1 (S727) antibody has been quality tested in ELISA, WB, IHC, and IF. It can only react with the human STAT1 phosphorylated at Ser 727 residue.

STAT1 is required for interferon (IFN) biological effects, particularly innate immunity to viruses and bacteria. In response to interferons or other immunological signals, serine 727 of STAT1's transactivating domain (TAD) is phosphorylated. STAT1 is a transcription factor required for macrophage activation by IFN-gamma, and its transcriptional activity is dependent on phosphorylation of the C-terminal Ser727. The p38 mitogen-activated protein kinase is required for stress-induced phosphorylation of STAT1 at Ser727, whereas IFN- utilizes a distinct signaling route.