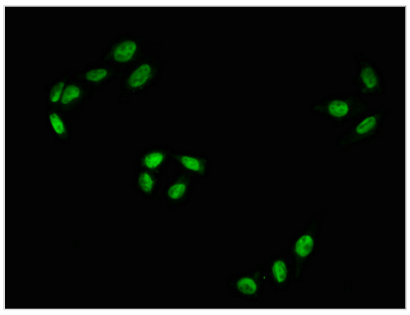
Phospho-RAF1 (S43) Recombinant Monoclonal Antibody

Product Code	CSB-RA019284A43phHU
Abbreviation	RAF proto-oncogene serine/threonine-protein kinase
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P04049
Immunogen	A synthesized peptide derived from Human Phospho-RAF1 (S43)
Species Reactivity	Human
Tested Applications	ELISA, IF; Recommended dilution: IF:1:20-1:200
Relevance	Serine/threonine-protein kinase that acts as a regulatory link between the membrane-associated Ras GTPases and the MAPK/ERK cascade, and this critical regulatory link functions as a switch determining cell fate decisions including proliferation, differentiation, apoptosis, survival and oncogenic transformation. RAF1 activation initiates a mitogen-activated protein kinase (MAPK) cascade that comprises a sequential phosphorylation of the dual-specific MAPK kinases (MAP2K1/MEK1 and MAP2K2/MEK2) and the extracellular signal-regulated kinases (MAPK3/ERK1 and MAPK1/ERK2). The phosphorylated form of RAF1 (on residues Ser-338 and Ser-339, by PAK1) phosphorylates BAD/Bcl2-antagonist of cell death at 'Ser-75'. Phosphorylates adenylyl cyclases: ADCY2, ADCY5 and ADCY6, resulting in their activation. Phosphorylates PPP1R12A resulting in inhibition of the phosphatase activity. Phosphorylates TNNT2/cardiac muscle troponin T. Can promote NF-kB activation and inhibit signal transducers involved in motility (ROCK2), apoptosis (MAP3K5/ASK1 and STK3/MST2), proliferation and angiogenesis (RB1). Can protect cells from apoptosis also by translocating to the mitochondria where it binds BCL2 and displaces BAD/Bcl2-antagonist of cell death. Regulates Rho signaling and migration, and is required for normal wound healing. Plays a role in the oncogenic transformation of epithelial cells via repression of the TJ protein, occludin (OCLN) by inducing the up-regulation of a transcriptional repressor SNAI2/SLUG, which induces down-regulation of OCLN. Restricts caspase activation in response to selected stimuli, notably Fas stimulation, pathogen-mediated macrophage apoptosis, and erythroid differentiation.
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	RAF proto-oncogene serine/threonine-protein kinase, Proto-oncogene c-RAF, cRaf, Raf-1, RAF1, RAF
Immunogen Species	Homo sapiens (Human)
Research Area	Signal Transduction
Gene Names	RAF1
Clone No.	1F7

Image



Immunofluorescence staining of Hela with CSB-RA019284A43phHU at 1:100,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 process of generating the phospho-RAF1 (S43) recombinant monoclonal antibody commences with the isolation of genes responsible for coding the RAF1 antibody from rabbits previously immunized with a synthesized peptide derived from the human RAF1 protein phosphorylated at S43. These antibody genes are subsequently introduced into expression vectors, and the genetically modified vectors are carefully transfected into host suspension cells. After successful transfection, positive cells are cultured to promote the robust expression and secretion of antibodies. Following this cultivation phase, the phospho-RAF1 (S43) recombinant monoclonal antibody undergoes a meticulous purification process utilizing affinity chromatography, effectively separating the antibody from the surrounding cell culture supernatant. Ultimately, the functionality of the antibody is comprehensively evaluated through ELISA and IF, unequivocally confirming its capacity to interact with the human RAF1 protein phosphorylated at S43.

Phosphorylation of RAF1 at S43 is a crucial regulatory event in the MAPK signaling pathway, impacting cell growth, survival, and differentiation. Dysregulation of this phosphorylation event can have significant implications in cancer and other diseases driven by aberrant signaling.