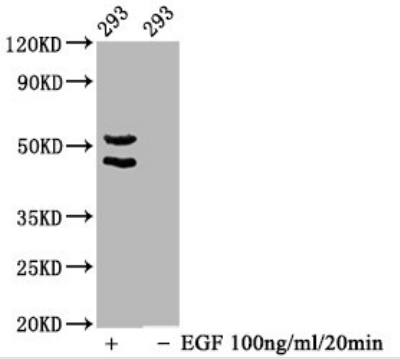
Phospho-MAPK8/MAPK9/MAPK10 (T183/T183/T221) Recombinant Monoclonal Antibody

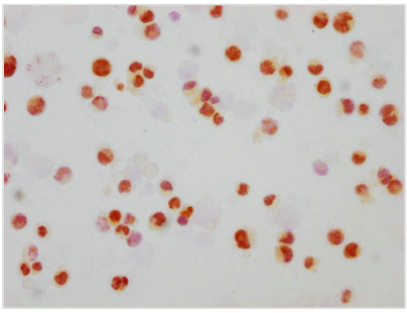
Product Code	CSB-RA013466A183phHU
Abbreviation	Mitogen-activated protein kinase 8
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P45983/P45984/P53779
Immunogen	A synthesized peptide derived from Human Phospho-MAPK8/MAPK9/MAPK10 (T183/T183/T221)
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200
Relevance	Serine/threonine-protein kinase involved in various processes such as cell proliferation, differentiation, migration, transformation and programmed cell death. Extracellular stimuli such as proinflammatory cytokines or physical stress stimulate the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. In this cascade, two dual specificity kinases MAP2K4/MKK4 and MAP2K7/MKK7 phosphorylate and activate MAPK8/JNK1. In turn, MAPK8/JNK1 phosphorylates a number of transcription factors, primarily components of AP-1 such as JUN, JDP2 and ATF2 and thus regulates AP-1 transcriptional activity. Phosphorylates the replication licensing factor CDT1, inhibiting the interaction between CDT1 and the histone H4 acetylase HBO1 to replication origins. Loss of this interaction abrogates the acetylation required for replication initiation. Promotes stressed cell apoptosis by phosphorylating key regulatory factors including p53/TP53 and Yes-associates protein YAP1. In T-cells, MAPK8 and MAPK9 are required for polarized differentiation of T-helper cells into Th1 cells. Contributes to the survival of erythroid cells by phosphorylating the antagonist of cell death BAD upon EPO stimulation. Mediates starvation-induced BCL2 phosphorylation, BCL2 dissociation from BECN1, and thus activation of autophagy. Phosphorylates STMN2 and hence regulates microtubule dynamics, controlling neurite elongation in cortical neurons. In the developing brain, through its cytoplasmic activity on STMN2, negatively regulates the rate of exit from multipolar stage and of radial migration from the ventricular zone. Phosphorylates several other substrates including heat shock factor protein 4 (HSF4), the deacetylase SIRT1, ELK1, or the E3 ligase ITCH. Phosphorylates the CLOCK-ARNTL/BMAL1 heterodimer and plays a role in the regulation of the circadian clock (PubMed:22441692). Phosphorylates the heat shock transcription factor HSF1, suppressing HSF1-induced transcriptional activity (PubMed:10747973).
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	Mitogen-activated protein kinase 8, MAP kinase 8, MAPK 8, JNK-46, Stress-activated protein kinase 1c, SAPK1c, Stress-activated protein kinase JNK1, c-Jun N-terminal kinase 1, MAPK8, JNK1, PRKM8, SAPK1, SAPK1C
Immunogen Species	Homo sapiens (Human)
Research Area	Signal Transduction
Gene Names	MAPK8/MAPK9/MAPK10
Clone No.	1A9

Image



Western Blot
Positive WB detected in 293 whole cell lysate(treated with EGF or not)
All lanes Phospho-MAPK8/MAPK9/MAPK10 antibody at 1.65μg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 46,54 KDa
Observed band size: 46,54 KDa



Immunocytochemistry analysis of CSB-RA013466A183phHU diluted at 1:165 and staining in Hela cells(treated with 100ng/ml EGF for 4h) performed on a Leica BondTM system. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and 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.

Description

In the process of generating the phospho-MAPK8/MAPK9/MAPK10 (T183/T183/T221) recombinant monoclonal antibody, the initial step involves the isolation of genes responsible for encoding the MAPK8/MAPK9/MAPK10 (T183/T183/T221) antibody. These genes are sourced from rabbits that have been previously immunized with a synthesized peptide derived from the human phospho-MAPK8/MAPK9/MAPK10 (T183/T183/T221) protein. Subsequently, these antibody genes are cloned into specialized expression vectors. Following this genetic modification, the vectors are skillfully introduced into mammalian suspension cells. These mammalian cells are then cultured, providing an environment conducive to the production and secretion of the antibodies.

Moving forward, the phospho-MAPK8/MAPK9/MAPK10 (T183/T183/T221) recombinant monoclonal antibody undergoes a meticulous purification process that hinges on the principles of affinity chromatography, effectively separating the antibody from the surrounding cell culture supernatant. Lastly, the antibody's functionality is subjected to a comprehensive evaluation, spanning a diverse array of tests including ELISA, WB, and IHC, thereby confirming its capability to effectively interact with the human phospho-MAPK8/MAPK9/MAPK10 (T183/T183/T221) protein.