

Product name:	MKP-1 Rabbit Polyclonal Antibody
Cat number:	ABN13931
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human MKP1. AA range:318-367
Reactivity:	Human,Rat,Mouse
Applications:	WB 1:500-1:2000,IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:10000-1:20000
Molecular Weight:	39kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

The expression of DUSP1 gene is induced in human skin fibroblasts by oxidative/heat stress and growth factors. It specifies a protein with structural features similar to members of the non-receptor-type protein-tyrosine phosphatase family, and which has significant amino-acid sequence similarity to a Tyr/Ser-protein phosphatase encoded by the late gene H1 of vaccinia virus. The bacterially expressed and purified DUSP1 protein has intrinsic phosphatase activity, and specifically inactivates mitogen-activated protein (MAP) kinase in vitro by the concomitant dephosphorylation of both its phosphothreonine and phosphotyrosine residues. Furthermore, it suppresses the activation of MAP kinase by oncogenic ras in extracts of *Xenopus* oocytes. Thus, DUSP1 may play an important role in the human cellular response to environmental stress as well as in the negative regulation of cellular proliferative activity.

Activity: A phosphoprotein + H₂O = a protein + phosphate.
Catalytic activity: Protein tyrosine phosphate + H₂O = protein tyrosine + phosphate.
Function: Dual specificity phosphatase that dephosphorylates MAP kinase ERK2 on both 'Thr-183' and 'Tyr-185'.
Induction: By oxidative stress and heat shock.
Similarity: Belongs to the protein-tyrosine phosphatase family. Non-receptor class dual specificity subfamily.
Similarity: Contains 1 rhodanese domain.
Similarity: Contains 1 tyrosine-protein phosphatase domain.
Tissue specificity: Expressed at high levels in the lung, liver placenta and pancreas. Moderate levels seen in the heart and skeletal muscle. Lower levels found in the brain and kidney.