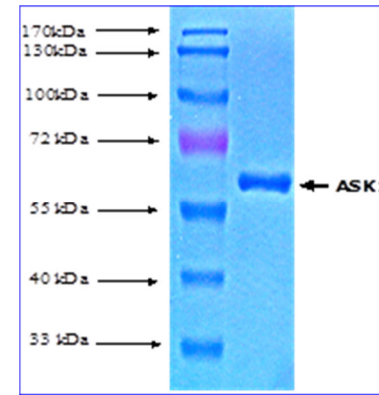


## Active ASK1

<b>CATALOG #:</b>	7710-5
<b>SOURCE:</b>	Sf 9 cells
<b>PURITY:</b>	1 µg of ASK1 protein was subjected to SDS-PAGE and Coomassie blue staining. The scan of the gel showed >95% purity of the ASK1 product, and the band was at ~60 kDa
<b>SPECIFIC ACTIVITY:</b>	97 nmol/min/mg
<b>MOLECULAR WEIGHT:</b>	~60 kDa.
<b>FORMULATION:</b>	Recombinant proteins in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol).
<b>STORAGE CONDITIONS:</b>	Store product frozen at or below -70°C. Stable for 1 year at -70°C as undiluted stock. Aliquot to avoid repeated thawing and freezing.

**BACKGROUND DESCRIPTION:** Mitogen-activated protein kinase (MAPK) signaling cascades include MAPK or ERK, MAPK kinase (MKK or MEK), and MAPK kinase kinase (MAPKKK or MEKK). MAPKK kinase/MEKK phosphorylates and activates its downstream protein kinase, MAPK kinase/MEK, which in turn activates MAPK. ASK1 (MAPKKK5) contains 1,374 amino acids with all 11 kinase subdomains. Northern blot analysis shows that MAPKKK5 transcript is abundantly expressed in human heart and pancreas. The MAPKKK5 protein phosphorylates and activates MKK4 (aliases SERK1, MAPKK4) in vitro, and activates c-Jun N-terminal kinase (JNK)/stress-activated protein kinase (SAPK) during transient expression in COS and 293 cells; MAPKKK5 does not activate MAPK/ERK. ASK1 also activates MKK3, MKK4 (SEK1), and MKK6. Overexpression of ASK1 induces apoptotic cell death, and ASK1 is activated in cells treated with tumor necrosis factor-alpha. ASK1 interacts with members of the TRAF family and is activated by TRAF2 in the TNF-signaling pathway. After activation by TRAF2, ASK1 activates MKK4, which in turn activates JNK. Thus, ASK1 is a mediator of TRAF2-induced JNK activation. Fas triggers cell death specifically in motor neurons by transcriptional upregulation of neuronal nitric oxide synthase (nNOS) mediated by p38 kinase. ASK1 and Daxx act upstream of p38 in the Fas signaling pathway, which was unique to motor neurons and may contribute to motor neuron loss in ALS.

**ACTIVITY:** 97 nmol phosphate incorporated into MBP per minute per mg protein at 30°C for 15 minutes using a final concentration of 50 µM ATP (0.83 µCi/assay).



ASK1 Protein Gel

### RELATED PRODUCTS:

- MAP-1 (Modulator of Apoptosis-1) Antibody (**Cat. No. 3694-100**)
- MAP-1 (Modulator of Apoptosis-1) Blocking peptide (**Cat. No. 3694BP-50**)
- MAPKAPK-2 Antibody (**Cat. No. 3100-100**)
- MAPKAPK-2 Blocking peptide (**Cat. No. 3100BP-50**)
- Active MAPKAPK2 (**Cat. No. 7737-5**)
- Active MAPKAPK3 (**Cat. No. 7755-5**)

**FOR RESEARCH USE ONLY! Not to be used in humans.**