

Mitogen-activated protein kinase 14

UniProt

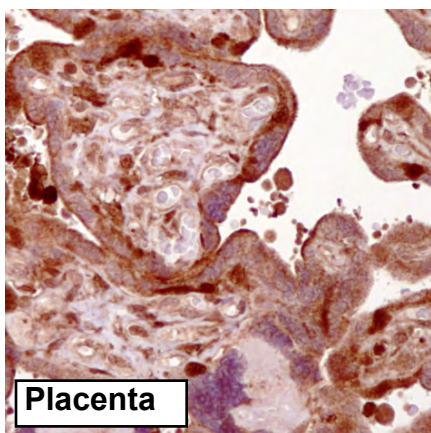
Function: Responds to activation by environmental stress, pro-inflammatory cytokines and lipopolysaccharide (LPS) by phosphorylating a number of transcription factors, such as ELK1 and ATF2 and several downstream kinases, such as MAPKAPK2 and MAPKAPK5. Plays a critical role in the production of some cytokines, for example IL-6. May play a role in stabilization of EPO mRNA during hypoxic stress. Isoform Mxi2 activation is stimulated by mitogens and oxidative stress and only poorly phosphorylates ELK1 and ATF2. Isoform Exip may play a role in the early onset of apoptosis.

Subcellular location: Cytoplasm (by similarity). Nucleus (by similarity).

Tissue specificity: Brain, heart, placenta, pancreas and skeletal muscle. Expressed to a lesser extent in lung, liver and kidney.

Three antibodies: MAPK14-1, MAPK14-2 and MAPK14-3 were tested. MAPK14-1 and MAPK14-2 were approved for IHC. MAPK14-1 was selected for full protein profiling.

MAPK14-1 (CAB040578)



Immunohistochemistry

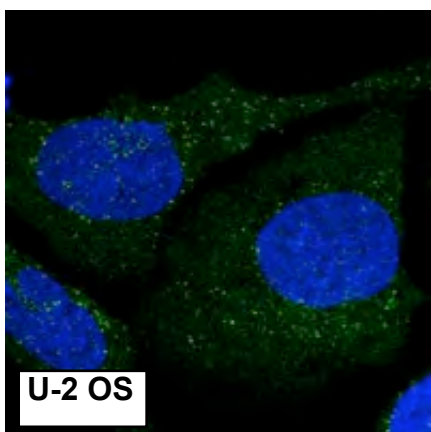
IHC protocol: HIER pH 6, Dilution 1:3000

IHC test staining: Ubiquitous cytoplasmic and in some tissues nuclear staining. High expression in, eg brain, skeletal muscle, tonsil, kidney and leydig cells.

IHC Annotators comments

Normal tissues displayed moderate to strong cytoplasmic positivity combined with additional nuclear staining in many tissues.

Malignant cells generally displayed moderate to strong cytoplasmic staining with additional nuclear positivity in several tissues. A majority of gastric cancers were weakly stained or negative.



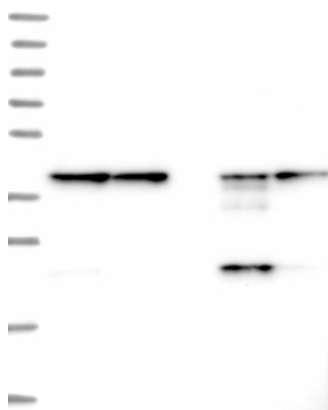
Immunofluorescence

IF Overlay: antibody (green), anti-tubuline (red) and DAPI (blue)

IF Localisation: Staining of vesicles in all three cell lines.

Additional staining of nucleus and cytoplasm in U-251 MG and A-431. Additional staining of Golgi apparatus in A-431.

IF Validation: Subcellular localization partly supported by literature or where no literature is available.



Western blot

WB Size markers (kDa): 250, 130, 95, 72, 55, 36, 28, 17, 11

WB Lanes: Marker(1), RT-4(2), U251 MG(3), Plasma(4), Liver(5), Tonsil(6)

WB Target weight (kDa): 41, 35, 32, 20, 16, 10

WB Validation: Supportive - Band of predicted size in kDa (+/-20%) with additional bands present.