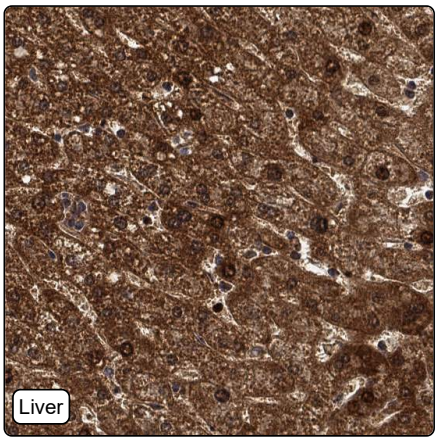
CPTC-MDM2-1 (CAB079977)

Uniprot ID: Q00987
Protein name: MDM2_HUMAN
Full name: E3 ubiquitin-protein ligase Mdm2
Tissue specificity: Ubiquitous. Isoform Mdm2-A, isoform Mdm2-B, isoform Mdm2-C, isoform Mdm2-D, isoform Mdm2-E, isoform Mdm2-F and isoform Mdm2-G are observed in a range of cancers but absent in normal tissues.
Function: E3 ubiquitin-protein ligase that mediates ubiquitination of p53/TP53, leading to its degradation by the proteasome. Inhibits p53/TP53- and p73/TP73-mediated cell cycle arrest and apoptosis by binding its transcriptional activation domain. Also acts as a ubiquitin ligase E3 toward itself and ARRB1. Permits the nuclear export of p53/TP53. Promotes proteasome-dependent ubiquitin-independent degradation of retinoblastoma RB1 protein. Inhibits DAXX-mediated apoptosis by inducing its ubiquitination and degradation. Component of the TRIM28/KAP1-MDM2-p53/TP53 complex involved in stabilizing p53/TP53. Also component of the TRIM28/KAP1-ERBB4-MDM2 complex which links growth factor and DNA damage response pathways. Mediates ubiquitination and subsequent proteasome degradation of DYRK2 in nucleus. Ubiquitinates IGF1R and SNAI1 and promotes them to proteasomal degradation (PubMed:12821780, PubMed:15053880, PubMed:15195100, PubMed:15632057, PubMed:16337594, PubMed:17290220, PubMed:19098711, PubMed:19219073, PubMed:19837670, PubMed:19965871, PubMed:20173098, PubMed:20385133, PubMed:20858735, PubMed:22128911). Ubiquitinates DCX, leading to DCX degradation and reduction of the dendritic spine density of olfactory bulb granule cells (By similarity). Ubiquitinates DLG4, leading to proteasomal degradation of DLG4 which is required for AMPA receptor endocytosis (By similarity).
Subcellular location:
Nucleus > Nucleoplasm
Cytoplasm
Nucleus > Nucleolus
NOTE: Expressed predominantly in the nucleoplasm. Interaction with ARF(P14) results in the localization of both proteins to the nucleolus. The nucleolar localization signals in both ARF(P14) and MDM2 may be necessary to allow efficient nucleolar localization of both proteins. Colocalizes with RASSF1 isoform A in the nucleus.
Protein existence: Experimental evidence at protein level

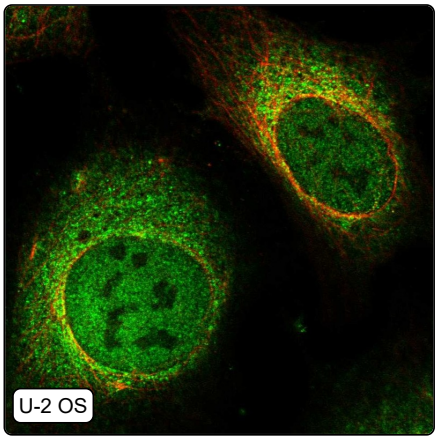
Comment: ICC-IF: We will try to get a good staining of this antibody in two more cell lines, before publication on the HPA. /Ulrika Axelsson

Immunohistochemistry



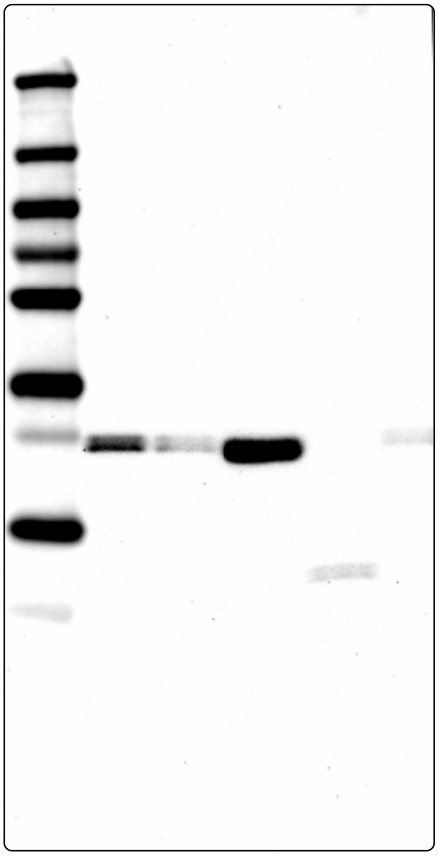
IHC protocol:	HIER pH6, Dilution 1:800
IHC test staining:	Most tissues showed cytoplasmic positivity with varaying intensity. Additional cytoplasmic positivity in immune cells and nuclear in few tissues was observed.
Literature conformance:	Consistent with extensive gene/protein characterization data
Literature significance:	
RNA consistency:	Mainly consistent with RNA expression data
IHC Sibling similarity:	Other antibody shows partly similar IHC staining pattern

Immunofluorescence



IF Overlay:	antibody (green), anti-tubuline (red) and DAPI (blue)
IF main location:	Cytosol - 3: **Supportive** (auto) Nucleoplasm - 3: **Supportive** (auto)
IF additional location:	Golgi apparatus - 5: **Approved** (auto)
IF Antibody score:	Supportive
IF in A549:	Nucleoplasm Golgi Cytosol
IF in HEK 293:	Negative
IF in U-2 OS:	Nucleoplasm Cytosol

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT4 (2), U-251 MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	5, 5, 8, 13, 14, 16, 24, 26, 27, 27, 27, 29, 30, 33, 36, 50, 52, 55, 56
WB Validation:	Supported (Single band corresponding to the predicted size in kDa (+/-20%).)