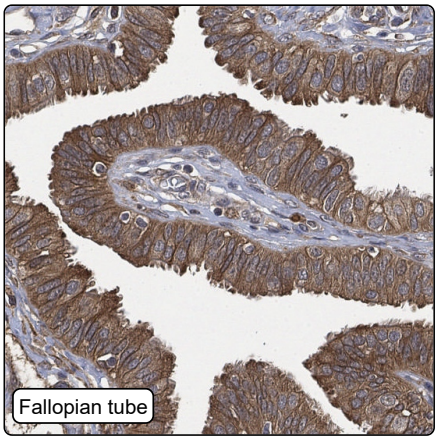
CPTC-HUS1-1 (CAB080337)

Uniprot ID: O60921
Protein name: HUS1_HUMAN
Full name: Checkpoint protein HUS1
Tissue specificity: Ubiquitous.
Function: Component of the 9-1-1 cell-cycle checkpoint response complex that plays a major role in DNA repair. The 9-1-1 complex is recruited to DNA lesion upon damage by the RAD17-replication factor C (RFC) clamp loader complex. Acts then as a sliding clamp platform on DNA for several proteins involved in long-patch base excision repair (LP-BER). The 9-1-1 complex stimulates DNA polymerase beta (POLB) activity by increasing its affinity for the 3'-OH end of the primer-template and stabilizes POLB to those sites where LP-BER proceeds; endonuclease FEN1 cleavage activity on substrates with double, nick, or gap flaps of distinct sequences and lengths; and DNA ligase I (LIG1) on long-patch base excision repair substrates. The 9-1-1 complex is necessary for the recruitment of RHNO1 to sites of double-stranded breaks (DSB) occurring during the S phase.
Subcellular location:
Nucleus (*experimental evidence*)
Cytoplasm > Cytosol (*experimental evidence*)
NOTE: In discrete nuclear foci upon DNA damage. According to PubMed:11077446, localized also in the cytoplasm. DNA damage induces its nuclear translocation. Shuttles between the nucleus and the cytoplasm.
Protein existence: Experimental evidence at protein level

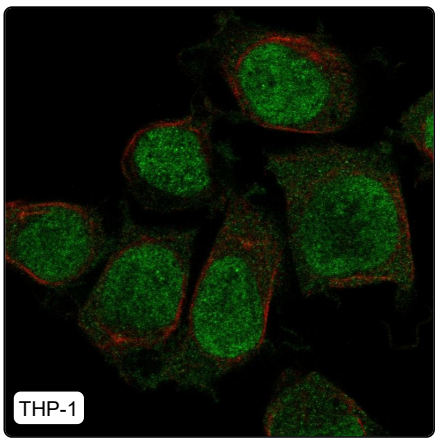
Comment:

Immunohistochemistry



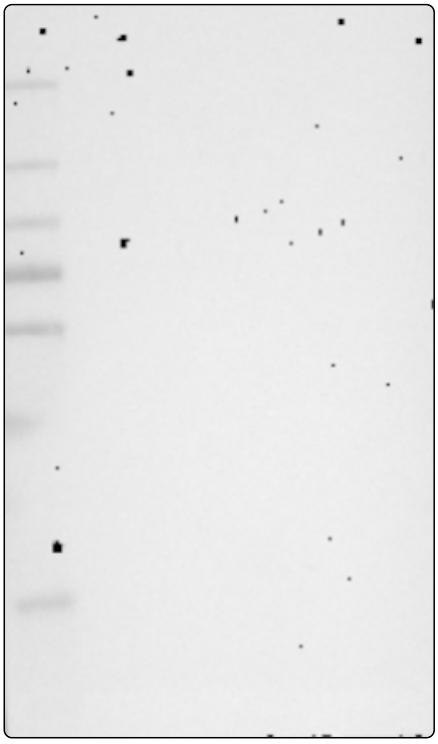
IHC protocol:	HIER pH6, Dilution 1:800
IHC test staining:	Cytoplasmic positivity in endothelial cells, fallopian tube, smooth muscle, pancreas and gastrointestinal tract.
Literature conformance:	Not consistent with gene/protein characterization data
Literature significance:	
RNA similarity:	Very low consistency between antibody staining and RNA expression data
RNA tissue specificity:	Low tissue specificity
RNA tissue distribution:	Detected in all
IHC Sibling similarity:	Other antibody shows dissimilar IHC staining pattern

Immunofluorescence



IF Overlay:	antibody (green), anti-tubulin (red) and DAPI (blue)
IF main location:	Nucleoplasm - 3: **Supportive** (auto)
IF additional location:	
IF approved for publication on HPA:	Yes
IF in THP-1:	Nucleoplasm
IF in U2OS:	Negative

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT-4 (2), U-251MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	16, 21, 29, 32
WB Validation:	Uncertain (No bands detected.)