

# CPTC-NUDT16L1-1 (CAB080237)

**Uniprot ID:** Q9BRJ7

**Protein name:** TIRR\_HUMAN

**Full name:** Tudor-interacting repair regulator protein

**Function:** Key regulator of TP53BP1 required to stabilize TP53BP1 and regulate its recruitment to chromatin (PubMed:28241136). In absence of DNA damage, interacts with the tandem Tudor-like domain of TP53BP1, masking the region that binds histone H4 dimethylated at 'Lys-20' (H4K20me2), thereby preventing TP53BP1 recruitment to chromatin and maintaining TP53BP1 localization to the nucleus (PubMed:28241136). Following DNA damage, ATM-induced phosphorylation of TP53BP1 and subsequent recruitment of RIF1 leads to dissociate NUDT16L1/TIRR from TP53BP1, unmasking the tandem Tudor-like domain and allowing recruitment of TP53BP1 to DNA double strand breaks (DSBs) (PubMed:28241136). Binds U8 snoRNA (PubMed:18820299).

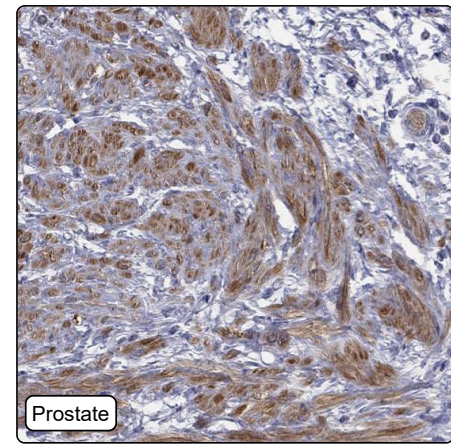
**Subcellular location:**

Nucleus (*experimental evidence*)

**Protein existence:** Experimental evidence at protein level

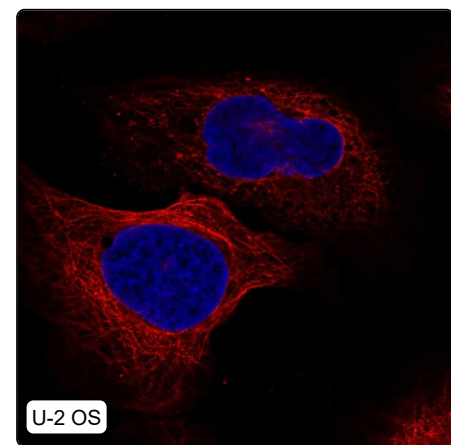
**Comment:**

## Immunohistochemistry



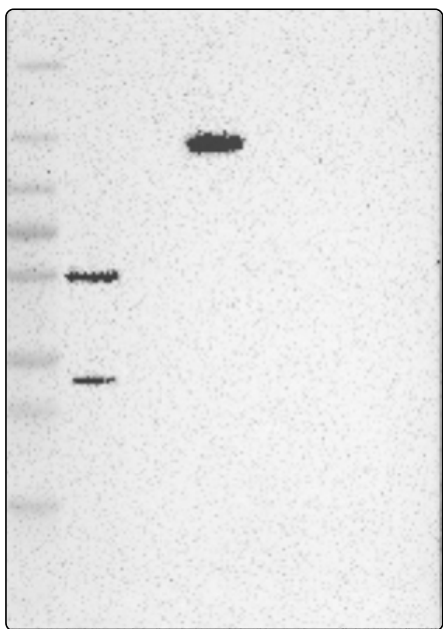
<b>IHC protocol:</b>	HIER pH6, Dilution 1:600
<b>IHC test staining:</b>	Cytoplasmic positivity in smooth muscle.
<b>Literature conformance:</b>	Not consistent with gene/protein characterization data
<b>Literature significance:</b>	
<b>RNA similarity:</b>	Very low consistency between antibody staining and RNA expression data
<b>RNA tissue specificity:</b>	Low tissue specificity
<b>RNA tissue distribution:</b>	Detected in all
<b>IHC Sibling similarity:</b>	Other antibody shows dissimilar IHC staining pattern
<b>IHC fail comment:</b>	ANTIBODY FAILED: Not consistent with RNA

## Immunofluorescence



<b>IF Overlay:</b>	antibody (green), anti-tubulin (red) and DAPI (blue)
<b>IF main location:</b>	
<b>IF additional location:</b>	
<b>IF approved for publication on HPA:</b>	No
<b>IF in THP-1:</b>	Negative
<b>IF in U-2 OS:</b>	Negative

# Western blot



<b>WB Size markers (kDa):</b>	250, 130, 100, 70, 55, 35, 25, 15, 10
<b>WB Lanes:</b>	Marker (1), RT4 (2), U-251 MG (3), Plasma (4), Liver (5), Tonsil (6)
<b>WB Target weight (kDa):</b>	19, 21, 22, 23, 26
<b>WB Validation:</b>	Uncertain (Weak band of predicted size but with additional bands of higher intensity also present.)