

# CPTC-PTHrP-1 (CAB080248)

Uniprot ID: [P12272](#)

Protein name: PTHR\_HUMAN

Full name: Parathyroid hormone-related protein

Tissue specificity: Ubiquitous. Also expressed in the mammary gland.

Function: Neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth. Required for skeletal homeostasis. Promotes mammary mesenchyme differentiation and bud outgrowth by modulating mesenchymal cell responsiveness to BMPs. Up-regulates BMPR1A expression in the mammary mesenchyme and this increases the sensitivity of these cells to BMPs and allows them to respond to BMP4 in a paracrine and/or autocrine fashion. BMP4 signaling in the mesenchyme, in turn, triggers epithelial outgrowth and augments MSX2 expression, which causes the mammary mesenchyme to inhibit hair follicle formation within the nipple sheath (By similarity). Promotes colon cancer cell migration and invasion in an integrin alpha-6/beta-1-dependent manner through activation of Rac1. Osteostatin is a potent inhibitor of osteoclastic bone resorption.

Subcellular location:

Cytoplasm

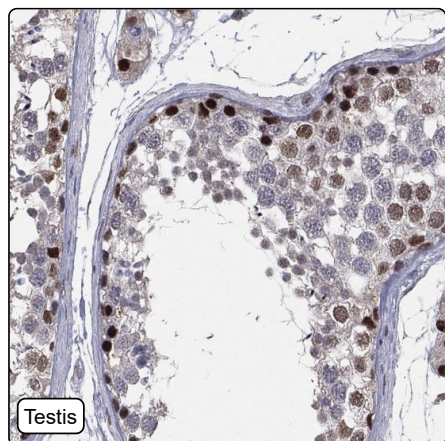
Nucleus

Secreted

Protein existence: Experimental evidence at protein level

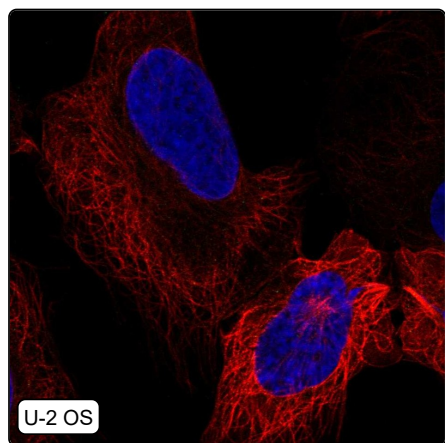
Comment:

## Immunohistochemistry



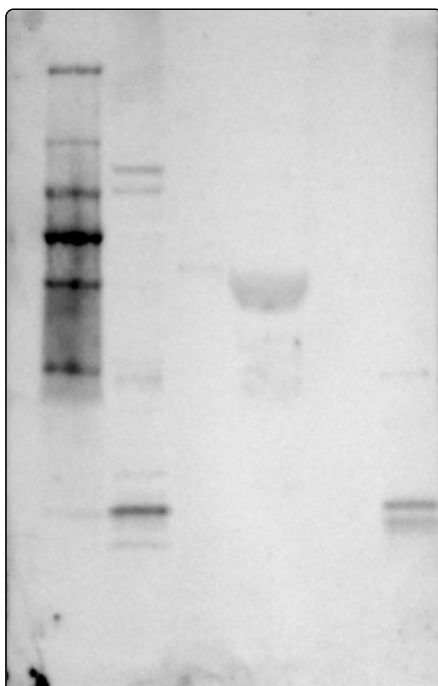
IHC protocol:	HIER pH6, Dilution 1:600
IHC test staining:	Nuclear positivity in testis, placenta and tonsil.
Literature conformance:	Partly consistent with extensive gene/protein characterization data
Literature significance:	
RNA similarity:	Very low consistency between antibody staining and RNA expression data
RNA tissue specificity:	Tissue enhanced (parathyroid gland)
RNA tissue distribution:	Detected in many
IHC Sibling similarity:	Other antibody shows dissimilar IHC staining pattern
IHC fail comment:	ANTIBODY FAILED: Not consistent with RNA

## Immunofluorescence



IF Overlay:	antibody (green), anti-tubulin (red) and DAPI (blue)
IF main location:	
IF additional location:	
IF approved for publication on HPA:	No
IF in THP-1:	Negative
IF in U-2 OS:	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>	13, 20, 20, 20, 20, 20, 20, 20, 24
<b>WB Validation:</b>	Supported (Band of predicted size in kDa (+/-20%) with additional bands present.)