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**[ Primary Antibody ]**

# Rabbit Anti-HRPT2 antibody

**Catalog Number: SL1597R**

**FOR RESEARCH USE ONLY**

**[ DATASHEET ]**

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| **Host:** | Rabbit |
| **Isotype:** | IgG |
| **Clonality:** | Polyclonal |
| **Target:** | HRPT2 |
| **Immunogen:** | KLH conjugated synthetic peptide derived from human HRPT2: 61-160/531 |
| **Purification:** | affinity purified by Protein A |
| **Concentration:** | 1mg/ml |
| **Storage:** | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. |
| **Applications:** | IHC-P=1:100-500<br>IHC-F=1:100-500<br>IF=1:100-500 （Paraffin sections need antigen repair）<br>not yet tested in other applications.<br>optimal dilutions/concentrations should be determined by the end user. |
| **Reactivity:** | Human,Rat(predicted:Mouse,Dog,Pig,Cow,Sheep) |
| **Predicted MW.:** | 60kDa |
| **Subcellular Location:** | The nucleus |
| **Background:** | The HRPT2 gene product, parafibromin, is a tumor suppressor protein that is part of the human Paf1 complex. The yeast counterpart to this complex is part of the RNA polymerase II complex as well, and is important for histone modification and connections to posttranscriptional events. Human parafibromin also associates with the RNA polymerase II large subunit.<br>**Function:** Tumor suppressor probably involved in transcriptional and post-transcriptional control pathways. May be involved in cell cycle progression through the regulation of cyclin D1/PRAD1 expression. Component of the PAF1 complex (PAF1C) which has multiple functions during transcription by RNA polymerase II and is implicated in regulation of development and maintenance of embryonic stem cell pluripotency.<br>PAF1C associates with RNA polymerase II through interaction with POLR2A CTD non-phosphorylated and 'Ser-2'- and 'Ser-5'-phosphorylated forms and is |

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| | involved in transcriptional elongation, acting both indepentently and synergistically with TCEA1 and in cooperation with the DSIF complex and HTATSF1. PAF1C is required for transcription of Hox and Wnt target genes. PAF1C is involved in hematopoiesis and stimulates transcriptional activity of KMT2A/MLL1; it promotes leukemogenesis through association with KMT2A/MLL1-rearranged oncoproteins, such as KMT2A/MLL1-MLLT3/AF9 and KMT2A/MLL1-MLLT1/ENL.<br>PAF1C is involved in histone modifications such as ubiquitination of histone H2B and methylation on histone H3 'Lys-4' (H3K4me3). PAF1C recruits the RNF20/40 E3 ubiquitin-protein ligase complex and the E2 enzyme UBE2A or UBE2B to chromatin which mediate monoubiquitination of 'Lys-120' of histone H2B (H2BK120ub1); UB2A/B-mediated H2B ubiquitination is proposed to be coupled to transcription. PAF1C is involved in mRNA 3' end formation probably through association with cleavage and poly(A) factors.<br>In case of infection by influenza A strain H3N2, PAF1C associates with viral NS1 protein, thereby regulating gene transcription. Connects PAF1C with the cleavage and polyadenylation specificity factor (CPSF) complex and the cleavage stimulation factor (CSTF) complex, and with Wnt signaling.<br>Involved in polyadenylation of mRNA precursors.<br>**Subunit:** Component of the PAF1 complex, which consists of CDC73, PAF1, LEO1, CTR9, RTF1 and WDR61. Interacts with POLR2A, CPSF1, CPSF4, CSTF2, KMT2A/MLL1 and CTNNB1. Interacts with a Set1-like complex that has histone methyltransferase activity and methylates histone H3. Found in a complex with BCL9L or BCL9, CDC73, CTNNB1 and PYGO1 indicative for the participation in a nuclear Wnt signaling complex.<br>**Subcellular Location:** Nucleus.<br>**Tissue Specificity:** Found in adrenal and parathyroid glands, kidney and heart.<br>DISEASE: Familial isolated hyperparathyroidism (FIHP) [MIM:145000]: Autosomal dominant disorder characterized by hypercalcemia, elevated parathyroid hormone (PTH) levels, and uniglandular or multiglandular parathyroid tumors. Note=The disease is caused by mutations affecting the gene represented in this entry.<br>Hyperparathyroidism-jaw tumor syndrome (HPT-JT) [MIM:145001]: Autosomal dominant, multiple neoplasia syndrome primarily characterized by hyperparathyroidism due to parathyroid tumors. Thirty percent of individuals with HPT-JT may also develop ossifying fibromas, primarily of the mandible and maxilla, which are distinct from the brown tumors associated with severe hyperparathyroidism. Kidney lesions may also occur in HPT-JT as bilateral cysts, renal hamartomas or Wilms tumors. Note=The disease is caused by mutations affecting the gene represented in this entry. |

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| | Parathyroid carcinoma (PRTC) [MIM:608266]: These cancers characteristically result in more profound clinical manifestations of hyperparathyroidism than do parathyroid adenomas, the most frequent cause of primary hyperparathyroidism. Early en bloc resection of the primary tumor is the only curative treatment. Note=The gene represented in this entry is involved in disease pathogenesis.<br>**Similarity:** Belongs to the CDC73 family.<br>**Database links:**<br>**Entrez Gene:** 79577 Human<br>**Entrez Gene:** 214498 Mouse<br>**Entrez Gene:** 478955 Dog<br>Omim: 607393 Human<br>**SwissProt:** Q6P1J9 Human<br>**SwissProt:** Q8JZM7 Mouse<br>**Unigene:** 378996 Human<br>**Unigene:** 389191 Mouse<br>**Unigene:** 393505 Mouse<br>**Unigene:** 398849 Mouse |

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