

# Immunotag™ Rb Monoclonal Antibody

| Antibody Specification |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Catalog No.            | ITM0553                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Product Description    | Immunotag™ Rb Monoclonal Antibody                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Size                   | 50 µg, 100 µg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Conjugation            | HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647                                                                                                                                                                                                                                                                                                                                                                                                    |
| IMPORTANT NOTE         | This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.                                                                                                                                                                                                                                                                                                                                                               |
| Target Protein         | Rb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Clonality              | Monoclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Storage/Stability      | -20°C/1 year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Application            | IHC-p,ELISA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Recommended Dilution   | Immunohistochemistry: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Concentration          | 1 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Reactive Species       | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Host Species           | Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Immunogen              | Purified recombinant fragment of human Rb expressed in E. Coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Specificity            | Rb Monoclonal Antibody detects endogenous levels of Rb protein.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Purification           | Affinity purification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Form                   | Ascitic fluid containing 0.03% sodium azide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Gene Name              | RB1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Accession No.          | P06400 P13405                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Alternate Names        | RB1; Retinoblastoma-associated protein; p105-Rb; pRb; Rb; pp110                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Description            | RB transcriptional corepressor 1(RB1) Homo sapiens The protein encoded by this gene is a negative regulator of the cell cycle and was the first tumor suppressor gene found. The encoded protein also stabilizes constitutive heterochromatin to maintain the overall chromatin structure. The active, hypophosphorylated form of the protein binds transcription factor E2F1. Defects in this gene are a cause of childhood cancer retinoblastoma (RB), bladder cancer, and osteogenic sarcoma. [provided by RefSeq, Jul 2008], |

## Antibody Specification

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| Cell Pathway/<br>Category   | Stem cell pathway, Cell_Cycle_G1S,Cell_Cycle_G2M_DNA, Protein_Acetylation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Protein<br>Expression       | Brain,Carcinoma,Cervix,Peripheral blood,Testis,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Subcellular<br>Localization | chromatin,nucleus,nucleoplasm,spindle,cyclin/CDK positive transcription elongation factor complex,SWI/SNF complex,PML body,Rb-E2F complex,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Protein Function            | <p>disease:Defects in RB1 are a cause of bladder cancer [MIM:109800].,disease:Defects in RB1 are a cause of osteogenic sarcoma [MIM:259500].,disease:Defects in RB1 are the cause of childhood cancer retinoblastoma (RB) [MIM:180200]. RB is a congenital malignant tumor that arises from the nuclear layers of the retina. It occurs in about 1:20'000 live births and represents about 2% of childhood malignancies. It is bilateral in about 30% of cases. Although most RB appear sporadically, about 20% are transmitted as an autosomal dominant trait with incomplete penetrance. The diagnosis is usually made before the age of 2 years when strabismus or a gray to yellow reflex from pupil ("cat eye") is investigated.,function:Key regulator of entry into cell division that acts as a tumor suppressor. Acts as a transcription repressor of E2F1 target genes. The underphosphorylated, active form of RB1 interacts with E2F1 and represses its transcription activity, leading to cell cycle arrest. Directly involved in heterochromatin formation by maintaining overall chromatin structure and, in particular, that of constitutive heterochromatin by stabilizing histone methylation. Recruits and targets histone methyltransferases SUV39H1, SUV420H1 and SUV420H2, leading to epigenetic transcriptional repression. Controls histone H4 'Lys-20' trimethylation. Inhibits the intrinsic kinase activity of TAF1. In case of viral infections, interactions with SV40 large T antigen, HPV E7 protein or adenovirus E1A protein induce the disassembly of RB1-E2F1 complex thereby disrupting RB1's activity.,online information:RB1 mutation db,online information:Retinoblastoma protein entry,PTM:Phosphorylated in G1, thereby releasing E2F1 which is then able to activate cell growth. Dephosphorylated at the late M phase. SV40 large T antigen, HPV E7 and adenovirus E1A bind to the underphosphorylated, active form of pRb.,similarity:Belongs to the retinoblastoma protein (RB) family.,subunit:Interacts with ATAD5 (By similarity). The hypophosphorylated form interacts with and sequesters the E2F1 transcription factor. The unphosphorylated form interacts with ARID3B, KDM5A, SUV39H1, MJD2A/JHDM3A and THOC1. Interacts with the N-terminal domain of TAF1. Interacts with AATF, DNMT1, LIN9, LMNA, SUV420H1, SUV420H2, PELP1 and TMPO-alpha. May interact with NDC80. Interacts with EID1 and UBR4. Interacts with ARID4A and KDM5B. Interacts with E4F1. Interacts with adenovirus E1A protein, HPV E7 protein and SV40 large T antigen.,tissue specificity:Expressed in the retina.,</p> |
| Usage                       | For Research Use Only! Not for diagnostic or therapeutic procedures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |