

## Immunotag™ CDK2 Antibody

| Antibody Specification |                                                                                                                                                                                                                                                                                                               |
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| Catalog No.            | ITA1828                                                                                                                                                                                                                                                                                                       |
| Product Description    | Immunotag™ CDK2 Antibody                                                                                                                                                                                                                                                                                      |
| Size                   | 100 µg, 200 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         | CDK2                                                                                                                                                                                                                                                                                                          |
| Clonality              | Polyclonal                                                                                                                                                                                                                                                                                                    |
| Storage/Stability      | -20°C/1 year                                                                                                                                                                                                                                                                                                  |
| Application            | WB,IF/ICC,ELISA                                                                                                                                                                                                                                                                                               |
| Recommended Dilution   | WB 1:500-1:2000, IF/ICC 1:100-1:500                                                                                                                                                                                                                                                                           |
| Concentration          | 1 mg/ml                                                                                                                                                                                                                                                                                                       |
| Reactive Species       | Human,Mouse,Rat                                                                                                                                                                                                                                                                                               |
| Host Species           | Rabbit                                                                                                                                                                                                                                                                                                        |
| Immunogen              | A synthesized peptide derived from human CDK2                                                                                                                                                                                                                                                                 |
| Specificity            | CDK2 Antibody detects endogenous levels of total CDK2                                                                                                                                                                                                                                                         |
| Purification           | The antiserum was purified by peptide affinity chromatography.                                                                                                                                                                                                                                                |
| Form                   | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.Store at -20 °C.Stable for 12 months from date of receipt                                                                                                                                                   |
| Gene Name              | CDK2                                                                                                                                                                                                                                                                                                          |
| Accession No.          | P24941                                                                                                                                                                                                                                                                                                        |
| Alternate Names        | Cdc2 related protein kinase; cdc2-related protein kinase; CDC28; CDC2A; Cdk 2; CDK1; CDK2; CDK2_HUMAN; CDKN2; Cell division kinase 2; Cell division protein kinase 2; Cyclin dependent kinase 2; cyclin dependent kinase 2-alpha; Cyclin-dependent kinase 2; kinase Cdc2; MPF; p33 protein kinase; p33(CDK2); |

## Antibody Specification

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| Description               | <p>Serine/threonine-protein kinase involved in the control of the cell cycle; essential for meiosis, but dispensable for mitosis. Phosphorylates CTNNB1, USP37, p53/TP53, NPM1, CDK7, RB1, BRCA2, MYC, NPAT, EZH2. Triggers duplication of centrosomes and DNA. Acts at the G1-S transition to promote the E2F transcriptional program and the initiation of DNA synthesis, and modulates G2 progression; controls the timing of entry into mitosis/meiosis by controlling the subsequent activation of cyclin B/CDK1 by phosphorylation, and coordinates the activation of cyclin B/CDK1 at the centrosome and in the nucleus. Crucial role in orchestrating a fine balance between cellular proliferation, cell death, and DNA repair in human embryonic stem cells (hESCs). Activity of CDK2 is maximal during S phase and G2; activated by interaction with cyclin E during the early stages of DNA synthesis to permit G1-S transition, and subsequently activated by cyclin A2 (cyclin A1 in germ cells) during the late stages of DNA replication to drive the transition from S phase to mitosis, the G2 phase. EZH2 phosphorylation promotes H3K27me3 maintenance and epigenetic gene silencing. Phosphorylates CABLES1 (By similarity). Cyclin E/CDK2 prevents oxidative stress-mediated Ras-induced senescence by phosphorylating MYC. Involved in G1-S phase DNA damage checkpoint that prevents cells with damaged DNA from initiating mitosis; regulates homologous recombination-dependent repair by phosphorylating BRCA2, this phosphorylation is low in S phase when recombination is active, but increases as cells progress towards mitosis. In response to DNA damage, double-strand break repair by homologous recombination a reduction of CDK2-mediated BRCA2 phosphorylation. Phosphorylation of RB1 disturbs its interaction with E2F1. NPM1 phosphorylation by cyclin E/CDK2 promotes its dissociates from unduplicated centrosomes, thus initiating centrosome duplication. Cyclin E/CDK2-mediated phosphorylation of NPAT at G1-S transition and until prophase stimulates the NPAT-mediated activation of histone gene transcription during S phase. Required for vitamin D-mediated growth inhibition by being itself inactivated. Involved in the nitric oxide- (NO) mediated signaling in a nitrosylation/activation-dependent manner. USP37 is activated by phosphorylation and thus triggers G1-S transition. CTNNB1 phosphorylation regulates insulin internalization. Phosphorylates FOXP3 and negatively regulates its transcriptional activity and protein stability (By similarity). Phosphorylates CDK2AP2 (PubMed:12944431).</p> |
| Cell Pathway/<br>Category | Primary Polyclonal Antibody                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Protein MW                | 34kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Usage                     | For Research Use Only! Not for diagnostic or therapeutic procedures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |