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| Clone | EP180 |
| Source | Rabbit Monoclonal |
| Cat # | PR232-6ml RTU PR232-3ml RTU |
| Regulatory Status | IVD |

CDK4- (EP180)

**Intended Use:**

This antibody is intended for use to qualitatively identify CDK4 antigen by light microscopy in formalin fixed, paraffin embedded tissue sections using immunohistochemical detection methodology. Interpretation of any positive or negative staining must be complemented with the evaluation of proper controls and must be made within the context of the patient’s clinical history and other diagnostic tests. A qualified pathologist must perform evaluation of the test.

**Summary and Explanation:**   
  
Cyclin-dependent kinase 4 (CDK4) is a member of the Ser/Thr protein kinase family. It is a catalytic subunit of the protein kinase complex that is important for cell cycle G1 phase progression. The activity of this kinase is restricted to the G1-S phase, which is controlled by the regulatory subunits D-type cyclins and CDK inhibitor p16 (INK4a).

Overexpression of CDK4 has been observed in many tumor types, including oral squamous cell carcinoma and cancers of the pancreatic (endocrine tumors), lung, breast and colon. The expression of CDK4 is associated with tumor progression.

Binh et al. reported a high expression of CDK4 (92%) in atypical lipomatous tumor/well-differentiated liposarcomas (ALT-WDLPS) and dedifferentiated liposarcomas (DDLPS) by immunostaining. CDK4 is useful in differentiating ALT-WDLPS from benign adipose tumors and to separate DDLPS from poorly differentiated sarcomas.

**Isotype:** Rabbit IgG

**Immunogen:** A synthetic peptide corresponding to residues of human CDK4 protein

**Reagent Provided:**

**Concentrated format:** Antibody to CDK4 is diluted in antibody diluent, with 1% bovine   
 serum albumin (BSA) and 0.05% sodium azide (NaN3). Recommended   
 dilutions: 1:50 – 1:100.The antibody dilution and protocol may vary depending on   
 the specimen preparation and specific application. Optimal conditions should be   
 determined by individual laboratory.

**Pre-diluted format:** PathnSitu ready to use antibodies are pre tittered to optimal staining   
 conditions. Further dilution may loose the activity and may yield to sub   
 optimal staining.

**Storage Recommendations:** Store at 2°-8°C. Do not use after expiration date provided on the vial.

**Staining Recommendations:   
 Antigen Retrieval Solution:** Use **Tris-EDTA (PathnSitu Cat # PS009)** as antigen retrieval solution   
 Heat Retrieval Method: Retrieve sections under steam pressure for 15   
 min using PathnSitu’s MERS (Multi Epitope Retrieval System) then allow   
 solution to cool for 10 minutes then transfer tissue sections/slides to   
 distilled water.

**Primary Antibody:**  Cover the tissue sections with primary antibody and incubate for 30   
 min at room temperature when used PathnSitu PolyExcel Detection   
 System.

**Detection System:** Refer to PathnSitu PolyExcel detection system protocol or manufacturer’s detection kit staining protocol when used other vendor detection system.

**Cellular Localization:** Nuclear, Cytoplasmic

**Positive Control:** Colon, Breast Ca

**Troubleshooting:** Follow the antibody specific protocol recommendations according to data sheet provided. If unusual results occur, contact PathnSitu Technical Support at 040-2701 5544 or techsupport@pathnsitu.com.

**Limitations and Warranty:** There are no warranties, expressed or implied, which extend beyond this   
 description. PathnSitu is not liable for property damage, personal injury, or   
 economic loss caused by this product.

**Bibliography:**  1. Harbour JW, et al.: Cell 1999, 98:859-869   
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**CDK4, EP180 antibody has been created by Epitomics Inc., using Epitomics’ proprietary rabbit monoclonal antibody technology covered under Patent No.’s 5,675,063 and 7,402,409.**