Anti-CDK1 Antibody [SY26-02]

ET1607-51

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IF-Tissue, IHC-P, IP
Molecular Wt:	Predicted band size: 34 kDa
Clone number:	SY26-02

Description: Cdk1 is a small protein (approximately 34 kilodaltons), and is highly conserved. Cdk1 is comprised mostly by the bare protein kinase motif, which other protein kinases share. Cdk1, like other kinases, contains a cleft in which ATP fits. When bound to its cyclin partners, Cdk1 phosphorylation leads to cell cycle progression. Given its essential role in cell cycle progression, Cdk1 is highly regulated. Most obviously, Cdk1 is regulated by its binding with its cyclin partners. Cyclin binding alters access to the active site of Cdk1, allowing for Cdk1 activity; furthermore, cyclins impart specificity to Cdk1 activity. At least some cyclins contain a hydrophobic patch which may directly interact with substrates, conferring target specificity. Furthermore, cyclins can target Cdk1 to particular subcellular locations.

Immunogen: Synthetic peptide within Human CDK1 aa 1-50 / 297.

Positive control: HeLa cell lysate, Saos-2 cell lysate, Jurkat cell lysate, mouse spleen tissue lysate, HeLa, human breast cancer tissue, human tonsil tissue, human testis tissue, mouse testis tissue, rat testis tissue.

Subcellular location: Cytoplasm, Nucleus, Mitochondrion.

Database links: SwissProt: P06493 Human | P11440 Mouse | P39951 Rat

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:50-1:200
IF-Tissue	1:50-1:200
IHC-P	1:1,000
IP	Use at an assay dependent concentration.

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

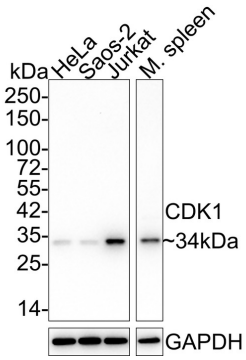

Fig1: Western blot analysis of CDK1 on different lysates with Rabbit anti-CDK1 antibody (ET1607-51) at 1/2,000 dilution.

Lane 1: HeLa cell lysate (15 µg/Lane)
Lane 2: Saos-2 cell lysate (15 µg/Lane)
Lane 3: Jurkat cell lysate (15 µg/Lane)
Lane 4: Mouse spleen tissue lysate (20 µg/Lane)

Predicted band size: 34 kDa
Observed band size: 34 kDa

Exposure time: 5 minutes;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1607-51) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

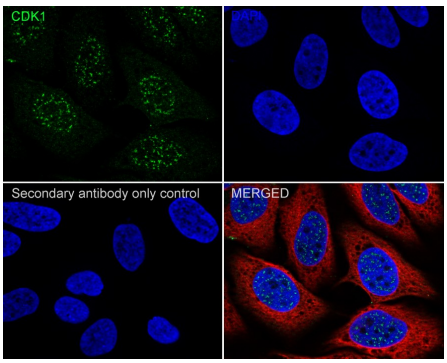

Fig2: Immunocytochemistry analysis of HeLa cells labeling CDK1 with Rabbit anti-CDK1 antibody (ET1607-51) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-CDK1 antibody (ET1607-51) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

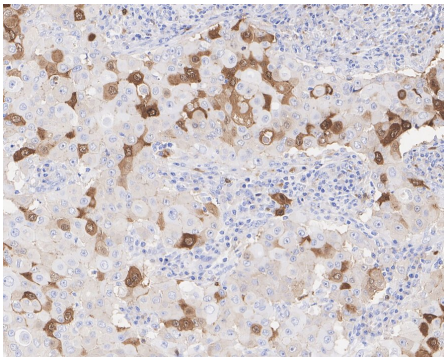

Fig3: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-CDK1 antibody (ET1607-51) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1607-51) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

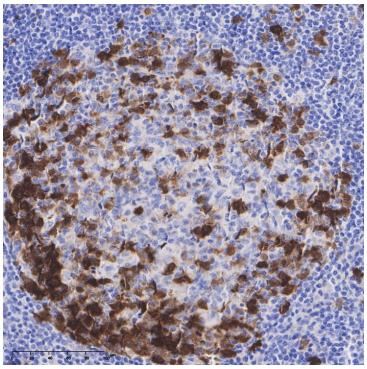

Fig4: Immunohistochemical analysis of paraffin-embedded human tonsil tissue with Rabbit anti-CDK1 antibody (ET1607-51) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1607-51) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

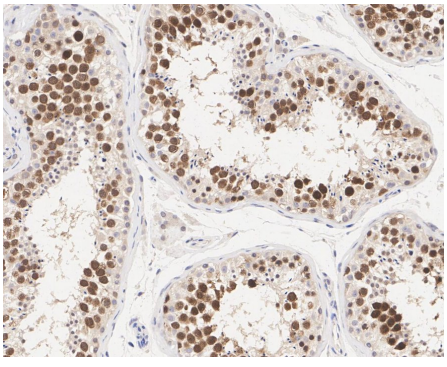

Fig5: Immunohistochemical analysis of paraffin-embedded human testis tissue with Rabbit anti-CDK1 antibody (ET1607-51) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1607-51) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

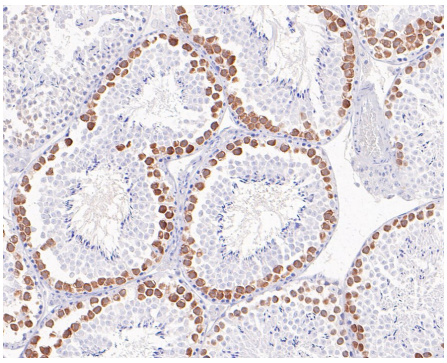

Fig6: Immunohistochemical analysis of paraffin-embedded mouse testis tissue with Rabbit anti-CDK1 antibody (ET1607-51) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1607-51) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

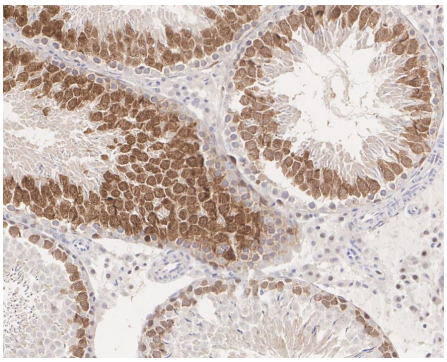

Fig7: Immunohistochemical analysis of paraffin-embedded rat testis tissue with Rabbit anti-CDK1 antibody (ET1607-51) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1607-51) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Gao K et al. HDGF-related protein-2 (HRP-2) acts as an oncogene to promote cell growth in hepatocellular carcinoma. Biochem Biophys Res Commun 458:849-55 (2015).
2. Wang JF et al. The molecular mechanisms of Tanshinone IIA on the apoptosis and arrest of human esophageal carcinoma cells. Biomed Res Int 2014:582730 (2014).