

## Product datasheet

# Anti-CDKAL1 antibody ab74020

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### Overview

<b>Product name</b>	Anti-CDKAL1 antibody
<b>Description</b>	Rabbit polyclonal to CDKAL1
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, WB, IHC-P
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human
<b>Immunogen</b>	Synthetic peptide conjugated to KLH derived from within residues 250 - 350 of Human CDKAL1. Read Abcam's proprietary immunogen policy (Peptide available as <a href="#">ab74019</a> .)
<b>Positive control</b>	This antibody gave a positive signal in the following whole cell lysates: HepG2, Jurkat, Raji and SK N BE. This antibody gave a positive result when used in the following formaldehyde fixed cell lines: PANC-1.

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

### Applications

Our [Abpromise guarantee](#) covers the use of **ab74020** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		

Application	Abreviews	Notes
WB	★☆☆☆☆	
IHC-P	★★★★☆	

### Application notes

ICC/IF: Use at a concentration of 5 µg/ml.

WB: Use at a concentration of 1 µg/ml. Detects a band of approximately 65 kDa (predicted molecular weight: 65 kDa).

Not yet tested in other applications.

Optimal dilutions/concentrations should be determined by the end user.

### Target

#### Function

Catalyzes the methylthiolation of N6-threonylcarbamoyl-adenosine (t(6)A), leading to the formation of 2-methylthio-N6-threonylcarbamoyl-adenosine (ms(2)t(6)A) at position 37 in tRNAs that read codons beginning with adenine.

#### Tissue specificity

Expressed in pancreatic islets.

#### Involvement in disease

Genetic variations in CDKAL1 are a cause of susceptibility to diabetes mellitus, non-insulin-dependent (NIDDM) [MIM:125853]. A multifactorial disorder of glucose homeostasis caused by a lack of sensitivity to the body's own insulin. Affected individuals usually have an obese body habitus and manifestations of a metabolic syndrome characterized by diabetes, insulin resistance, hypertension and hypertriglyceridemia. The disease results in long-term complications that affect the eyes, kidneys, nerves, and blood vessels.

#### Sequence similarities

Belongs to the methylthiotransferase family. CDKAL1 subfamily.

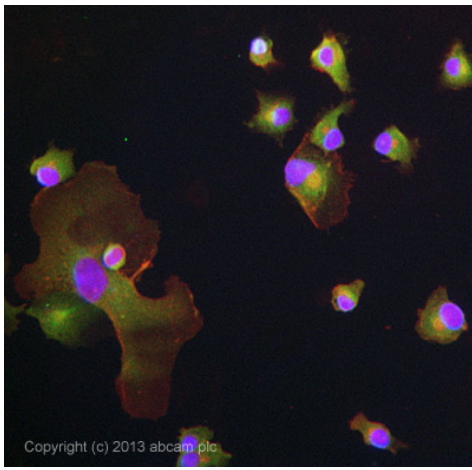
Contains 1 MTTase N-terminal domain.

Contains 1 TRAM domain.

#### Cellular localization

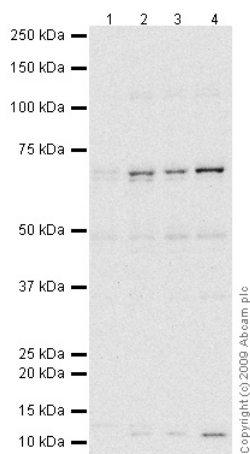
Endoplasmic reticulum membrane. Is a tail-anchored protein that exploits the TCR40 pathway for insertion into the endoplasmic reticulum.

### Images



Immunocytochemistry/ Immunofluorescence - Anti-CDKAL1 antibody (ab74020)

ICC/IF image of ab74020 stained PANC-1 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab74020 at 5µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- rabbit (ab96899) IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Western blot - Anti-CDKAL1 antibody (ab74020)

**All lanes :** Anti-CDKAL1 antibody (ab74020) at 1 µg/ml

**Lane 1 :** HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate

**Lane 2 :** Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate

**Lane 3 :** Raji (Human Burkitt's lymphoma cell line) Whole Cell Lysate

**Lane 4 :** SK N BE (Human neuroblastoma) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

### Secondary

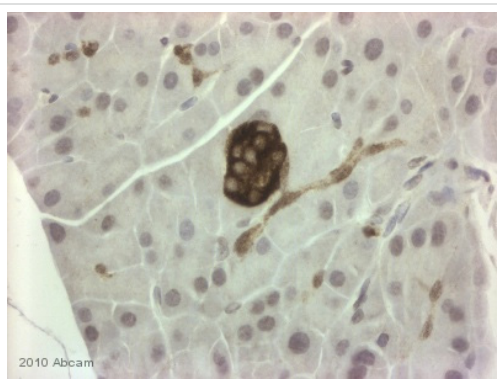
**All lanes :** Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

**Predicted band size:** 65 kDa

**Observed band size:** 65 kDa

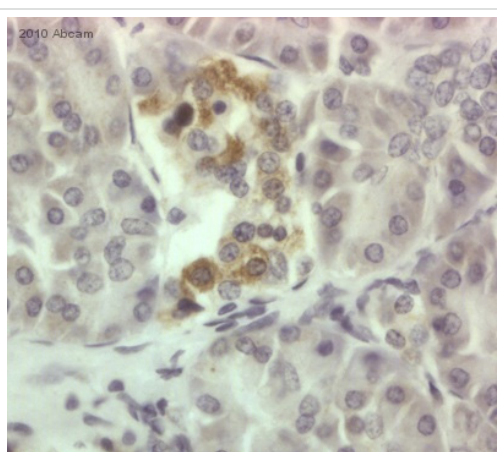
**Exposure time:** 8 minutes



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDKAL1 antibody (ab74020)

This image is a courtesy of Abreview submitted by Antibody Solutions Ltd

ab74020 staining CDKAL1 in mouse pancreatic tissue sections by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue underwent fixation in formaldehyde, heat mediated antigen retrieval and blocking (5 minutes/peroxidase block and 10 minutes/protein block) for 45 minutes at 20<sup>0</sup>C. The primary antibody was diluted 1/250 and incubated with the sample for 45 minutes at 20<sup>0</sup>C. A HRP conjugated goat polyclonal to rabbit IgG was used undiluted as secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CDKAL1 antibody (ab74020)

This image is a courtesy of Abreview submitted by Antibody Solutions Ltd

ab74020 staining CDKAL1 in human pancreatic tissue sections by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue underwent fixation in formaldehyde, heat mediated antigen retrieval and blocking (5 minutes/peroxidase block and 10 minutes/protein block) for 15 minutes at 20<sup>0</sup>C. The primary antibody was diluted 1/250 and incubated with the sample for 45 minutes at 20<sup>0</sup>C. A HRP polymer conjugated goat polyclonal to rabbit IgG was used undiluted as secondary antibody.

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