

Product Name: KD-Validated CAD Recombinant Rabbit Monoclonal Antibody**Catalog #: KVA01119**

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC
Reactivity	Human
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000
Molecular Weight	Calculated MW: 243.0kDa

Antigen Information

Gene Name	CAD CAD; Carbamoyl-Phosphate Synthetase 2, Aspartate Transcarbamylase, And
Alternative Names	Dihydroorotase; GATD4; CAD Protein; Multifunctional Protein CAD; CAD Trifunctional Protein; EC 6.3.5.5; EC 2.1.3.2; EC 3.5.2.3; EC 6.3.5; EIEE50; CDG1Z; DEE50
Gene ID	790.0
SwissProt ID	P27708
Immunogen	A synthesized peptide derived from human CAD

Background

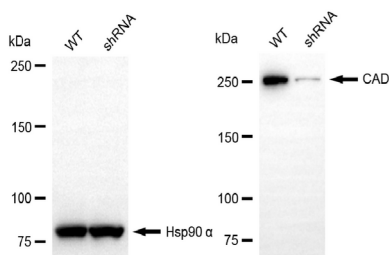
The de novo synthesis of pyrimidine nucleotides is required for mammalian cells to proliferate. This gene encodes a trifunctional protein which is associated with the enzymatic activities of the first 3 enzymes in the 6-step pathway of pyrimidine

biosynthesis: carbamoylphosphate synthetase (CPS II), aspartate transcarbamoylase, and dihydroorotase. This protein is regulated by the mitogen-activated protein kinase (MAPK) cascade, which indicates a direct link between activation of the MAPK cascade and de novo biosynthesis of pyrimidine nucleotides. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2015]

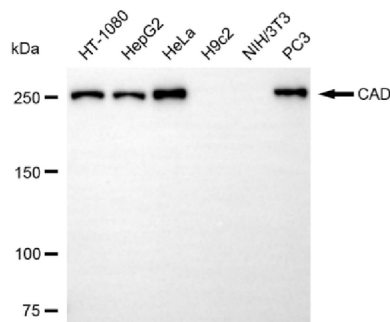
Research Area

Cell Biology, Epigenetics and Nuclear Signaling, Metabolism, Cancer

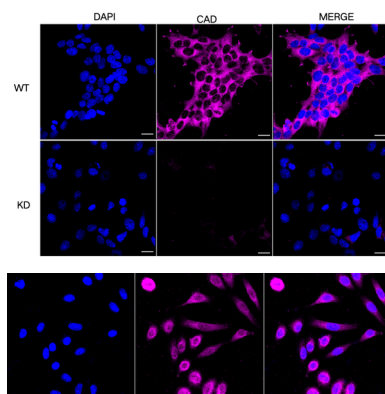
Image Data



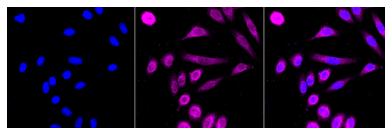
Western blotting analysis using CAD antibody (KVA01119). CAD expression in wild-type (WT) and CAD shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with CAD antibody (KVA01119, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



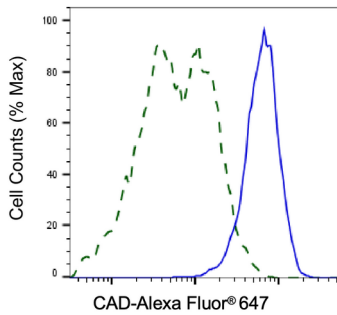
Western blotting analysis using CAD antibody (KVA01119). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with CAD antibody (KVA01119, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



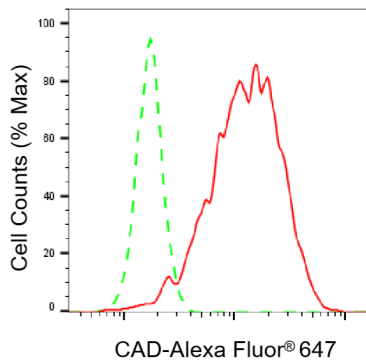
Immunocytochemical staining of HeLa cells using CAD antibody (KVA01119, 1:1,000). Top panel: wild-type (WT); Bottom panel: CAD shRNA knockdown (KD). Nuclei were stained blue with DAPI; CAD was stained magenta with Alexa Fluor® 647. Scale bar, 20 µm.



Immunocytochemical staining of HepG2 cells with CAD antibody (KVA01119, 1:1,000). Nuclei were stained blue with DAPI; CAD was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser intensity and smart gain: Medium. Scale bar, 20 µm.



Validation of CAD knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with CAD antibody (KVA01119, 1:2,000) and analyzed using BD flow cytometer.



Flow cytometric analysis of CAD expression in HepG2 cells using CAD antibody (KVA01119, 1:2,000). Green, isotype control; red, CAD.