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KO Validated Anti-CAMK2D Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2408

Specification

KO Validated Anti-CAMK2D Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC**
Primary Accession	Q13557
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 56 kDa, observed, 48 kDa KDa**
Gene Name	**CAMK2D**
Aliases	**CAMK2D; Calcium/Calmodulin Dependent Protein Kinase II Delta;CAMKD; Calcium/Calmodulin-Dependent Protein Kinase (CaM Kinase) II Delta; Calcium/Calmodulin-Dependent Protein Kinase Type II Subunit Delta; EC 2.7.11.17; Calcium/Calmodulin-Dependent Protein Kinase Type II Delta Chain; CaM Kinase II Delta Subunit; CaM Kinase II Subunit Delta; CaM-Kinase II Delta Chain; CaMK-II Delta Subunit; CaMK-II Subunit Delta; EC 2.7.11**
Immunogen	**A synthesized peptide derived from human CaMKII delta**

KO Validated Anti-CAMK2D Rabbit Monoclonal Antibody - Additional Information

Gene ID	**817**

Other Names
Calcium/calmodulin-dependent protein kinase type II subunit delta, CaM kinase II subunit delta, CaMK-II subunit delta, 2.7.11.17, CAMK2D, CAMKD

KO Validated Anti-CAMK2D Rabbit Monoclonal Antibody - Protein Information

Name CAMK2D

Synonyms CAMKD

Function
Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca(2+) homeostatis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in Ca(2+) influx into the myocyte, Ca(2+) release from the sarcoplasmic reticulum (SR), SR Ca(2+) uptake and Na(+) and K(+) channel transport. Targets also transcription factors and signaling molecules to regulate heart function. In its activated form, is involved in the pathogenesis of dilated cardiomyopathy and heart failure. Contributes to cardiac decompensation and heart failure by regulating SR Ca(2+) release via direct phosphorylation of

RYR2 Ca(2+) channel on 'Ser-2808'. In the nucleus, phosphorylates the MEF2 repressor HDAC4, promoting its nuclear export and binding to 14-3-3 protein, and expression of MEF2 and genes involved in the hypertrophic program (PubMed:17179159). Is essential for left ventricular remodeling responses to myocardial infarction. In pathological myocardial remodeling acts downstream of the beta adrenergic receptor signaling cascade to regulate key proteins involved in ECC. Regulates Ca(2+) influx to myocytes by binding and phosphorylating the L-type Ca(2+) channel subunit beta-2 CACNB2. In addition to Ca(2+) channels, can target and regulate the cardiac sarcolemmal Na(+) channel Nav1.5/SCN5A and the K+ channel Kv4.3/KCND3, which contribute to arrhythmogenesis in heart failure. Phosphorylates phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2, contributing to the enhancement of SR Ca(2+) uptake that may be important in frequency-dependent acceleration of relaxation (FDAR) and maintenance of contractile function during acidosis (PubMed:16690701). May participate in the modulation of skeletal muscle function in response to exercise, by regulating SR Ca(2+) transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor. In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK-STAT signaling pathway (By similarity).

Cellular Location
Cell membrane, sarcolemma; Peripheral membrane protein; Cytoplasmic side. Sarcoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side

Tissue Location
Expressed in cardiac muscle and skeletal muscle. Isoform Delta 3, isoform Delta 2, isoform Delta 8 and isoform Delta 9 are expressed in cardiac muscle. Isoform Delta 11 is expressed in skeletal muscle.

KO Validated Anti-CAMK2D Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KO Validated Anti-CAMK2D Rabbit Monoclonal Antibody - Images

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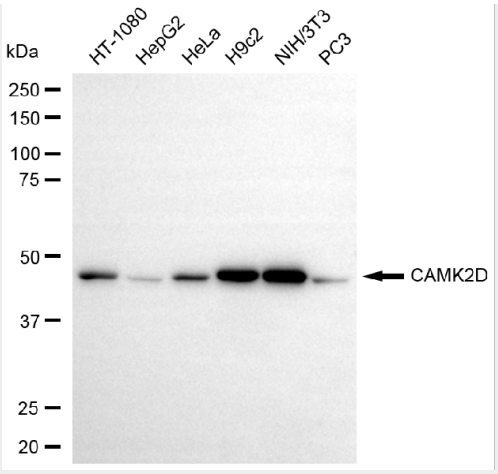
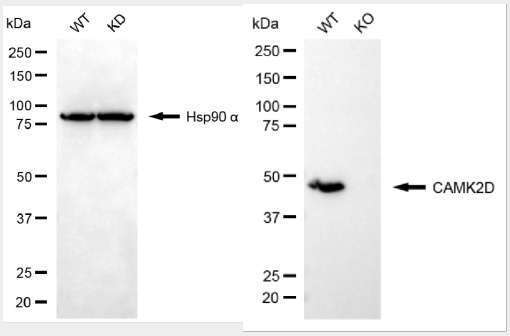
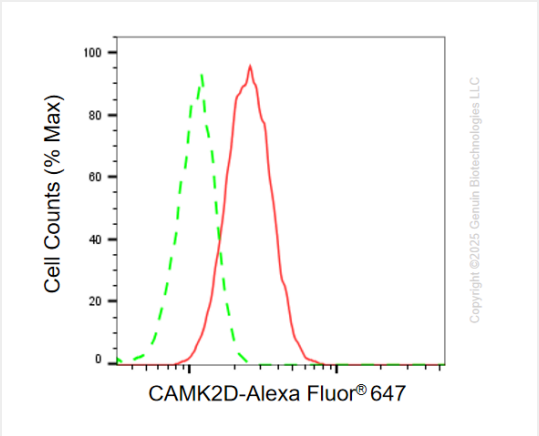


Western blotting analysis using anti-CAMK2D antibody (Cat#71142). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-CAMK2D antibody (Cat#71142, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (Cat#201, 1:20,000) respectively. Image was developed using NaQ™ ECL Substrate Kit (Cat#716).



Western blotting analysis using anti-CAMK2D antibody (Cat#71142). CAMK2D expression in wild type (WT) and CAMK2D knockout (KO) 293T cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-CAMK2D antibody (Cat#71142, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (Cat#201, 1:20,000) respectively. Image was developed using NaQ™ ECL Substrate Kit (Cat#716).



Flow cytometric analysis of CAMK2D expression in C2C12 cells using anti-CAMK2D antibody (Cat# 71142, 1:2,000). Green, isotype control; red, CAMK2D.