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AKAP1 (D9C5) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not For Use In Diagnostic Procedures.

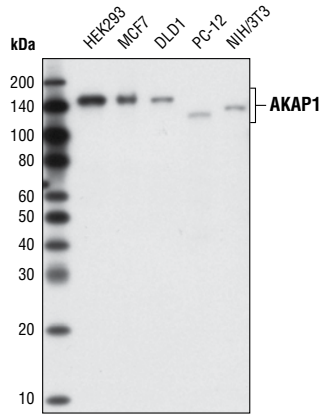
Entrez-Gene ID #8165
UniProt ID #Q92667

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC Endogenous	H, M, R	149 kDa (H), 130 kDa (M), 121 kDa (R)	Rabbit IgG**

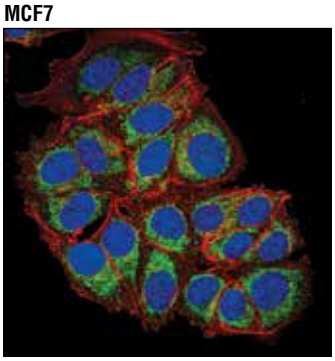
Background: AKAPs (A-kinase anchoring proteins), as their name implies, are a family of scaffolding proteins that bind regulatory subunits of Protein Kinase A (PKA) thus localizing PKA activity to distinct regions of the cell (1). Beyond a common amphipathic alpha-helix which is responsible for recruiting the PKA regulatory subunit (RIα, RIIα, RIβ, or RIIβ), individual AKAPs contain additional domains responsible for the recrutiment of additional signaling proteins (phosphodiesterases, phosphatases, cytoskeletal components, other kinase, etc.) or restricting the AKAP to a specific subcellular location (1). AKAP1, also known as AKAP149 in human, AKAP121 in rat, or D-AKAP in mouse is a dual-specificity AKAP which can bind to both RI and RII subunits of PKA with similar affinity (2,3). Originally thought to be predominantly restricted to the mitochondria, growing evidence suggests that localization of AKAP1 can be regulated in part by alternative splicing events and that AKAP1 may be present in the endoplasmic reticulum-nuclear envelope membrane network (4-6). Peri-nuclear localization, along with the fact that AKAP1 interacts with RNA via one of two nucleotide-binding domains (K homology (KH) and Tudor) have lead some to suggest that AKAP1 may play a role in RNA metabolism (7,8). In addition to PKA-RI and -RII, AKAP1 directly interacts with PP1 in a phosphorylation dependent manner and nucleates a complex containing PP2Ac, PKA and RSK1 which modulates RSK1 localization and activity (9-12).

Specificity/Sensitivity: AKAP1 (D9C5) XP® Rabbit mAb recognizes endogenous levels of total AKAP1 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val630 of human AKAP1 protein.



Western blot analysis of extracts from various cell lines using AKAP1 (D9C5) XP® Rabbit mAb.



Confocal immunofluorescent analysis of MCF7 cells using AKAP1 (D9C5) XP® Rabbit mAb (green) and β-Actin (8H10D10) Mouse mAb #3700 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (IF-IC)	1:50
IF Protocol:	Methanol Fixation required

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.