Revision 1

#5000 Store at -20C

JunD (D17G2) Rabbit mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, FC-FP	H Mk B Pg	Endogenous	38, 42	Rabbit IgG	#P17535	3727

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:200
Immunofluorescence (Immunocytochemistry)	1:400
Flow Cytometry (Fixed/Permeabilized)	1:200

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.

Specificity/Sensitivity

JunD (D17G2) Rabbit mAb recognizes endogenous levels of total JunD protein. This antibody is not predicted to cross-react with other Fos/Jun family members.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro250 of human JunD protein.

Background

JunD, along with closely related family members c-Jun and JunB, is a transcription factor that can activate or repress a wide array of target genes (1,2). JunD transcriptional activity is modulated by phosphorylation in response to cellular stress via the c-Jun N-terminal Kinase (JNK)/Stress-Activated Protein Kinase (SAPK) family of protein kinases (3,4). JunD activity can also be modulated by the MAPK pathway in response to growth factors. Its transcriptional capacity is further regulated by other binding partners that affect JunD expression levels and DNA binding capacity (reviewed in 2). All Jun proteins are capable of forming dimers with Fos-, ATF- and CREB-family transcription factors to form the AP-1 complex that differentially regulates a variety of target genes involved in cellular growth, proliferation, differentiation, and apoptosis (reviewed in 2 and 6). Unlike JunB and c-Jun, which share a high degree of homology (>95%), JunD is less conserved (~75%) at the amino acid level (1). Growing evidence suggests that JunD protein expression is regulated independently of other family members (reviewed in 2). It is thought that JunD may have functional significance beyond the typical Jun-family milieu. This is exemplified by the fact that JunD knockout mice are viable, bearing specific defects in cardiomyocyte function and bone growth, whereas their c-Jun counterparts develop significant, multi-organ defects during embryogenesis and die at E12.5 (6-9). JunD appears to specifically regulate genes involved in antioxidant response and hydrogen peroxide production and plays an important role in angiogenesis via its ability to exert transcriptional control over the VEGF gene (10). Furthermore, JunD appears to play an important roll in metabolism via modulation of IGF-I signaling pathways (11). Recent studies have shown that JunD regulates GADD45 α and γ expression in prostate cancer cells and that inhibition of JunD promotes apoptosis. Thus, JunD may be a viable therapeutic target for the treatment of prostate cancer (12).

Background References

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4. Stocco, C.O. et al. (2002) *J Biol Chem* 277, 3293-302.
5. Eferl, R. and Wagner, E.F. (2003) *Nat Rev Cancer* 3, 859-68.
6. Thépot, D. et al. (2000) *Development* 127, 143-53.
7. Hilberg, F. et al. (1993) *Nature* 365, 179-81.
8. Meixner, A. et al. (2010) *Cell Death Differ* 17, 1409-19.
9. Hilfiker-Kleiner, D. et al. (2005) *Circulation* 112, 1470-7.
10. Gerald, D. et al. (2004) *Cell* 118, 781-94.
11. Laurent, G. et al. (2008) *Cell Metab* 7, 113-24.
12. Zerbini, L.F. et al. (2011) *Cell Cycle* 10, 2583-91.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **Mk:** Monkey **B:** Bovine **Pg:** Pig

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Limited Uses