Revision 1

Store at -20C

#5857

DBC1 (3G4) Mouse mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC	H M R Mk	Endogenous	130	Mouse IgG1	#Q8N163	57805

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:400

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

DBC1 (3G4) Mouse mAb recognizes endogenous levels of total DBC1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human DBC1 protein.

Background

Deleted in breast cancer gene 1 protein (DBC1) was originally identified by its localization to a region of chromosome 8p21 that is homozygously deleted in breast cancer (1). DBC1 is a large, nuclear protein with multiple functions in cell survival. It binds directly to the estrogen receptor α (ERα) hormone-binding domain in a ligand-independent manner and may be a key determinant of ligand-independent ERα expression and survival in human breast cancer cells (2). DBC1 can promote p53-mediated apoptosis by binding to and inhibiting the deacetylase activity of SirT1, resulting in increased p53 acetylation levels and activity (3). DBC1 may be an important regulator of heterochromatin formation as it binds SUV39H1 and inhibits its histone methyltransferase activity (4). Caspase-dependent processing activates the pro-apoptotic activity of DBC1 during Tumor Necrosis Factor-α (TNF-α)-mediated cell death signaling (5). This processing of DBC1 in response to TNF-α is an early event in the onset of apoptosis and results in relocalization of DBC1 to the cytoplasm. Overexpression of the processed, cytoplasmic form of DBC1 results in mitochondrial clustering and matrix condensation and sensitizes cells to TNF-α-mediated apoptosis.

Background References

1. Hamaguchi, M. et al. (2002) *Proc Natl Acad Sci USA* 99, 13647-52.
2. Trauernicht, A.M. et al. (2007) *Mol Endocrinol* 21, 1526-36.
3. Zhao, W. et al. (2008) *Nature* 451, 587-90.
4. Li, Z. et al. (2009) *J Biol Chem* 284, 10361-6.
5. Sundararajan, R. et al. (2005) *Oncogene* 24, 4908-20.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

Trademarks and Patents

Limited Uses

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