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.

Specificity/Sensitivity: DBC1 Antibody detects endogenous levels of total DBC1 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human DBC1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

Recommended Antibody Dilutions:
- Western blotting: 1:1000
- Immunoprecipitation: 1:50
- Immunofluorescence (IF-IC): 1:100

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—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
- Ne—horse
- All—all species expected

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