

# GADD 45 $\beta$ (C-18): sc-8776

## BACKGROUND

Cell cycle progression is subject to arrest at G<sub>1</sub> and G<sub>2</sub> checkpoints in response to DNA damage, presumably to allow time for DNA repair prior to entry into S and M phase, respectively. The p53 tumor suppressor is required for one such G<sub>1</sub> checkpoint and functions to upregulate expression of GADD 45 and p21. GADD 45 binds both Cdks and PCNA, a protein involved in DNA replication and repair. GADD 45 stimulates DNA excision repair *in vitro* and inhibits entry of cells into S phase. Thus, it has been suggested that GADD 45 may serve as a link between the p53-dependent cell cycle checkpoint and DNA repair. GADD 45-like proteins, GADD 45 $\beta$  and GADD 45 $\gamma$ , have been shown to be induced by environmental stresses. GADD 45 $\beta$  and GADD 45 $\gamma$  are thought to induce p38/JNK activation via MEKK4 activation.

## REFERENCES

1. Murray, A.W. 1992. Creative blocks: cell-cycle checkpoints and feedback controls. *Nature* 359: 599-604.
2. Kuerbitz, S.J., et al. 1992. Wildtype p53 is a cell cycle checkpoint determinant following irradiation. *Proc. Natl. Acad. Sci. USA* 89: 7491-7495.

## CHROMOSOMAL LOCATION

Genetic locus: GADD45B (human) mapping to 19p13.3; Gadd45b (mouse) mapping to 10 C1.

## SOURCE

GADD 45 $\beta$  (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GADD 45 $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8776 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GADD 45 $\beta$  (C-18) is recommended for detection of GADD 45 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GADD 45 $\beta$  (C-18) is also recommended for detection of GADD 45 $\beta$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GADD 45 $\beta$  siRNA (h): sc-37416, GADD 45 $\beta$  siRNA (m): sc-37417, GADD 45 $\beta$  shRNA Plasmid (h): sc-37416-SH, GADD 45 $\beta$  shRNA Plasmid (m): sc-37417-SH, GADD 45 $\beta$  shRNA (h) Lentiviral Particles: sc-37416-V and GADD 45 $\beta$  shRNA (m) Lentiviral Particles: sc-37417-V.

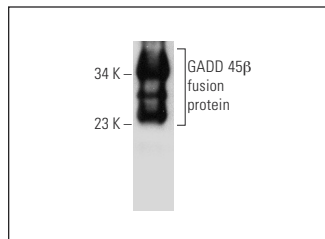
Molecular Weight of GADD 45 $\beta$ : 18 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



GADD 45 $\beta$  (C-18): sc-8776. Western blot analysis of human recombinant GADD 45 $\beta$  fusion protein.

## SELECT PRODUCT CITATIONS

1. Beckers, J., et al. 2005. Identification and validation of novel ErbB-2 (HER2, Neu) targets including genes involved in angiogenesis. *Int. J. Cancer* 114: 590-597.
2. Ijiri, K., et al. 2005. A novel role for GADD 45 $\beta$  as a mediator of MMP-13 gene expression during chondrocyte terminal differentiation. *J. Biol. Chem.* 280: 38544-38555.
3. Ijiri, K., et al. 2008. Differential expression of GADD45 $\beta$  in normal and osteoarthritic cartilage: potential role in homeostasis of articular chondrocytes. *Arthritis Rheum.* 58: 2075-2087.
4. Tsuchimochi, K., et al. 2010. GADD45 $\beta$  enhances Col10a1 transcription via the MTK1/MKK3/6/p38 axis and activation of C/EBP $\beta$ -TAD4 in terminally differentiating chondrocytes. *J. Biol. Chem.* 285: 8395-8407.
5. Zenmyo, M., et al. 2010. Gadd45 $\beta$  expression in chondrosarcoma: a pilot study for diagnostic and biological implications in histological grading. *Diagn. Pathol.* 5: 69.
6. Shimada, H., et al. 2011. Senescence of chondrocytes in aging articular cartilage: GADD45 $\beta$  mediates p21 expression in association with C/EBP $\beta$  in senescence-accelerated mice. *Pathol. Res. Pract.* 207: 225-231.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **GADD 45 $\beta$  (G-11): sc-377311**, our highly recommended monoclonal alternative to GADD 45 $\beta$  (C-18).