SANTA CRUZ BIOTECHNOLOGY, INC.

GADD 45γ (H-65): sc-33173

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell cycle progression is subject to arrest at G_1 and G_2 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_1 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 45β and GADD 45γ, have been shown to be induced by environmental stresses. GADD 45β and GADD 45γ are thought to induce p38/JNK activation via MEKK4 activation.

CHROMOSOMAL LOCATION

Genetic locus: GADD45G (human) mapping to 9q22.2; Gadd45g (mouse) mapping to 13 A5.

SOURCE

GADD 45γ (H-65) is a rabbit polyclonal antibody raised against amino acids 95-159 mapping at the C-terminus of GADD 45γ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

GADD 45γ (H-65) is recommended for detection of GADD 45γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 45γ (H-65) is also recommended for detection of GADD 45γ in additional species, including canine, bovine and porcine.

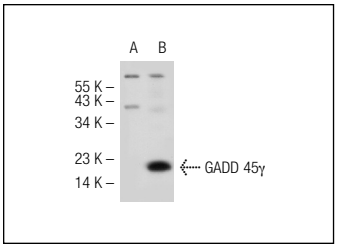
Suitable for use as control antibody for GADD 45γ siRNA (h): sc-37418, GADD 45γ siRNA (m): sc-37419, GADD 45γ shRNA Plasmid (h): sc-37418-SH, GADD 45γ shRNA Plasmid (m): sc-37419-SH, GADD 45γ shRNA (h) Lentiviral Particles: sc-37418-V and GADD 45γ shRNA (m) Lentiviral Particles: sc-37419-V.

Positive Controls: GADD 45γ (m): 293T Lysate: sc-120384.

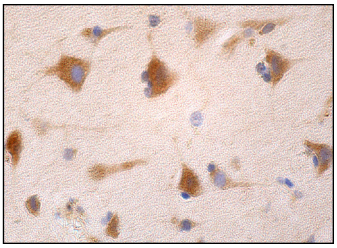
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GADD 45γ (H-65): sc-33173. Western blot analysis of GADD 45γ expression in non-transfected: sc-117752 (**A**) and mouse GADD 45γ transfected: sc-120384 (**B**) 293T whole cell lysates.



GADD 45γ (H-65): sc-33173. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal and glial cells.

SELECT PRODUCT CITATIONS

1. Kokkinakis, D.M., et al. 2005. Modulation of cell cycle and gene expression in pancreatic tumor cell lines by methionine deprivation (methionine stress): implications to the therapy of pancreatic adenocarcinoma. Mol. Cancer Ther. 4: 1338-1348.
2. Saletta, F., et al. 2011. Cellular iron depletion and the mechanisms involved in the iron-dependent regulation of the growth arrest and DNA damage family of genes. J. Biol. Chem. 286: 35396-35406.
3. Guo, W., et al. 2013. Methylation-mediated repression of GADD45A and GADD45G expression in gastric cardia adenocarcinoma. Int. J. Cancer. E-published.
4. Takeda, S., et al. 2013. (-)-Xanthatin up-regulation of the GADD45γ tumor suppressor gene in MDA-MB-231 breast cancer cells: role of topoisomerase IIα inhibition and reactive oxygen species. Toxicology 305: 1-9.

RESEARCH USE

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