SANTA CRUZ BIOTECHNOLOGY, INC.

GADD 34 (H-193): sc-8327

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

It is well established that 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 the mitotic inhibitory protein p21. GADD 45 has been shown to stimulate DNA excision repair *in vitro* and to inhibit entry of cells into S phase, and it apparently acts in concert with GADD 153 in inducing growth arrest. A related DNA-damage inducible gene, GADD 34 (also designated MyD116) has been shown to synergize with GADD 45 or GADD 153 in suppressing cell growth. PEG-3 (progression elevated gene-3) shares significant homology with GADD 34 and is inducible by DNA damage. PEG-3 expression has been shown to be elevated in cells displaying a progressed-transformed phenotype.

REFERENCES

1. Sherr, C.J. 1994. G_1 phase progression: cycling on cue. Cell 79: 551-555.
2. Hunter, T., et al. 1994. Cyclins and cancer II: cyclin D and CDK inhibitors come of age. Cell 79: 573-582.
3. Ron, D. 1994. Inducible growth arrest: new mechanistic insights. Proc. Natl. Acad. Sci. USA 91: 1985-1986.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R15A (human) mapping to 19q13.2; Myd116 (mouse) mapping to 7 B4.

SOURCE

GADD 34 (H-193) is a rabbit polyclonal antibody raised against amino acids 483-674 of GADD 34 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.

APPLICATIONS

GADD 34 (H-193) is recommended for detection of GADD 34 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GADD 34 siRNA (h): sc-37414, GADD 34 siRNA (m): sc-37415, GADD 34 shRNA Plasmid (h): sc-37414-SH, GADD 34 shRNA Plasmid (m): sc-37415-SH, GADD 34 shRNA (h) Lentiviral Particles: sc-37414-V and GADD 34 shRNA (m) Lentiviral Particles: sc-37415-V.

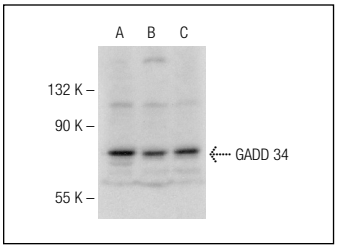
Molecular Weight of GADD 34: 73 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

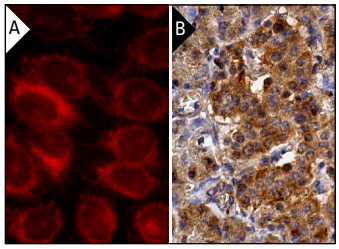
STORAGE

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

DATA



GADD 34 (H-193): sc-8327. Western blot analysis of GADD 34 expression in HeLa (**A**), Hep G2 (**B**) and A549 (**C**) whole cell lysates.



GADD 34 (H-193): sc-8327. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic local-ization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans and glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Brush, M.H., et al. 2003. Growth arrest and DNA damage-inducible protein GADD34 targets protein phosphatase 1 α to the endoplasmic reticulum and promotes dephosphorylation of the a subunit of eukaryotic translation initiation factor 2. Mol. Cell. Biol. 23: 1292-1303.
2. Latreille, M., et al. 2006. Nck in a complex containing the catalytic subunit of protein phosphatase 1 regulates eukaryotic initiation factor 2α signaling and cell survival to endoplasmic reticulum stress. J. Biol. Chem. 281: 26633-26644.
3. McCabe, C., et al. 2008. GADD34 gene restores virulence in viral vector used in experimental stroke study. J. Cereb. Blood Flow Metab. 28: 747-751.
4. Li, H.Y., et al. 2008. Deactivation of the kinase IKK by CUEDC2 through recruitment of the phosphatase PP1. Nat. Immunol. 9: 533-541.
5. Lee, Y.Y., et al. 2009. An upstream open reading frame regulates translation of GADD34 during cellular stresses that induce eIF2α phosphorylation. J. Biol. Chem. 284: 6661-6673.
6. Cotton, L.M., et al. 2010. Organic cation/carnitine transporter, OCTN2, transcriptional activity is regulated by osmotic stress in epididymal cells. Mol. Reprod. Dev. 77: 114-125.

RESEARCH USE

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