SANTA CRUZ BIOTECHNOLOGY, INC.

GADD 34 (D-8): sc-46661



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. G1 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.
- 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 19q13.33.

SOURCE

GADD 34 (D-8) is a mouse monoclonal antibody raised against amino acids 483-674 of GADD 34 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GADD 34 (D-8) is recommended for detection of GADD 34 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:10000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

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

Molecular Weight of GADD 34: 73 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEK293 whole cell lysate: sc-45136 or U-937 cell lysate: sc-2239.

RESEARCH USE

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

STORAGE

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

DATA





Western blot analysis of control (**A**,**C**) and GADD 34 transfected (**B**,**D**) COS cells. Antibodies tested include GADD 34 (D-8): sc-46661 (**A**,**B**) and GADD 34 (H-193): sc-8327 (**C**,**D**). GADD 34 (D-8): sc-46661. Western blot analysis of GADD 34 expression in HeLa $({\bf A})$ and HEK293 $({\bf B})$ whole cell lysates.

SELECT PRODUCT CITATIONS

- Tardito, S., et al. 2009. The thioxotriazole copper(II) complex A0 induces endoplasmic reticulum stress and paraptotic death in human cancer cells. J. Biol. Chem. 284: 24306-24319.
- Tardito, S., et al. 2011. Copper binding agents acting as copper ionophores lead to caspase inhibition and paraptotic cell death in human cancer cells. J. Am. Chem. Soc. 133: 6235-6242.
- 3. 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.
- Yao, J., et al. 2020. The attenuating effect of the intraovarian bone morphogenetic protein 4 on age-related endoplasmic reticulum stress in chicken follicular cells. Oxid. Med. Cell. Longev. 2020: 4175613.
- Gain, C., et al. 2021. Identification of two novel thiophene analogues as inducers of autophagy mediated cell death in breast cancer cells. Bioorg. Med. Chem. 37: 116112.
- 6. Zhu, Y., et al. 2021. Paeoniflorin effect of Schwann cell-derived exosomes ameliorates dorsal root ganglion neurons apoptosis through IRE1 α pathway. Evid. Based Complement. Alternat. Med. 2021: 6079305.
- Grillone, K., et al. 2022. The new microtubule-targeting agent SIX2G induces immunogenic cell death in multiple myeloma. Int. J. Mol. Sci. 23: 10222.
- Barroso, E., et al. 2023. CHOP upregulation and dysregulation of the mature form of the SNAT2 amino acid transporter in the placentas from small for gestational age newborns. Cell Commun. Signal. 21: 326.



See **GADD 34 (B-10): sc-373815** for GADD 34 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.