

# GADD 34 (S-20): sc-824

## BACKGROUND

It is well established that 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 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<sub>1</sub> 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.

## CHROMOSOMAL LOCATION

Genetic locus: PPP1R15A (human) mapping to 19q13.33.

## SOURCE

GADD 34 (S-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-824 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GADD 34 (S-20) is recommended for detection of GADD 34 of 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 shRNA Plasmid (h): sc-37414-SH and GADD 34 shRNA (h) Lenti-viral Particles: sc-37414-V.

Molecular Weight of GADD 34: 73 kDa.

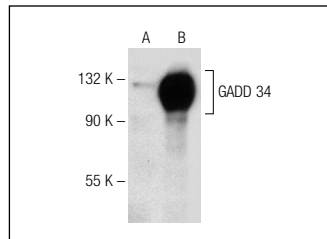
## STORAGE

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

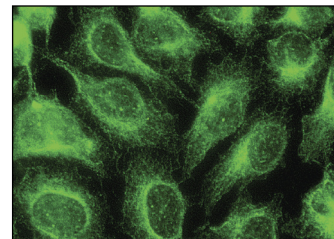
## RESEARCH USE

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

## DATA



GADD 34 (S-20): sc-824. Western blot analysis of GADD 34 expression in non-transfected: sc-117752 (A) and human GADD 34 transfected: sc-174859 (B) 293T whole cell lysates.



GADD 34 (S-20): sc-824. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Korabiowska, M., et al. 1997. Differential expression of growth arrest, DNA damage genes and tumour suppressor gene p53 in Naevi and malignant melanomas. *Anticancer Res.* 17: 3697-3700.
2. Makris, C., et al. 2000. Female mice heterozygous for IKK γ/NEMO deficiencies develop a dermatopathy similar to the human X-linked disorder incontinentia pigmenti. *Mol. Cell* 5: 969-979.
3. Fribley, A., et al. 2004. Proteasome inhibitor PS-341 induces apoptosis through induction of endoplasmic reticulum stress-reactive oxygen species in head and neck squamous cell carcinoma cells. *Mol. Cell. Biol.* 24: 9695-9704.
4. Xu, Q., et al. 2007. Selective progesterone receptor modulator asoprisnil induces endoplasmic reticulum stress in cultured human uterine leiomyoma cells. *Am. J. Physiol. Endocrinol. Metab.* 293: E1002-E1011.
5. Vander Griend, D.J., et al. 2009. Amino acid containing thapsigargin analogues deplete androgen receptor protein via synthesis inhibition and induce the death of prostate cancer cells. *Mol. Cancer Ther.* 8: 1340-1349.
6. Chromik, A.M., et al. 2010. Gene expression analysis of cell death induction by taurodinine in different malignant cell lines. *BMC Cancer* 10: 595.
7. Villeneuve, C., et al. 2011. Mitochondrial proteomic approach reveals galectin-7 as a novel BCL-2 binding protein in human cells. *Mol. Biol. Cell* 22: 999-1013.
8. Racay, P. 2012. Ischaemia-induced protein ubiquitinylation is differentially accompanied with heat-shock protein 70 expression after naive and preconditioned ischaemia. *Cell. Mol. Neurobiol.* 32: 107-119.

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Try **GADD 34 (B-10): sc-373815** or **GADD 34 (D-8): sc-46661**, our highly recommended monoclonal alternatives to GADD 34 (S-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **GADD 34 (B-10): sc-373815**.