

GADD 45 γ (N-19): sc-8777

BACKGROUND

Cell cycle progression is subject to arrest at G₁ and G₂ 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 G₁ 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 β and GADD 45 γ , have been shown to be induced by environmental stresses. GADD 45 β and GADD 45 γ are thought to induce p38/JNK activation via MEKK4 activation.

REFERENCES

- Murray, A.W. 1992. Creative blocks: cell-cycle checkpoints and feedback controls. *Nature* 359: 599-604.
- Kuerbitz, S.J., et al. 1992. Wild-type p53 is a cell cycle checkpoint determinant following irradiation. *Proc. Natl. Acad. Sci. USA* 89: 7491-7495.
- Kastan, M.B., et al. 1992. A mammalian cell cycle checkpoint pathway utilizing p53 and GADD45 is defective in ataxia-telangiectasia. *Cell* 71: 587-597.
- Marx, J. 1994. New link found between p53 and DNA repair. *Science* 266: 1321-1322.
- Smith, M.L., et al. 1994. Interaction of the p53-regulated protein Gadd45 with proliferating cell nuclear antigen. *Science* 266: 1376-1379.
- Takekawa, M. et al. 1998. A family of stress-inducible GADD45-like proteins mediate activation of the stress-responsive MTK1/MEKK4 MAPKKK. *Cell* 95: 521-530.

CHROMOSOMAL LOCATIONS

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

SOURCE

GADD 45 γ (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GADD 45 γ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8777 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

GADD 45 γ (N-19) is recommended for detection of GADD 45 γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 γ (N-19) is also recommended for detection of GADD 45 γ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GADD 45g siRNA (h): sc-37418, GADD 45g siRNA (m): sc-37419, GADD 45g siRNA (r): sc-63316, GADD 45g shRNA Plasmid (h): sc-37418-SH, GADD 45g shRNA Plasmid (m): sc-37419-SH, GADD 45g shRNA Plasmid (r): sc-63316-SH, GADD 45g shRNA (h) Lentiviral Particles: sc-37418-V, GADD 45g shRNA (m) Lentiviral Particles: sc-37419-V and GADD 45g shRNA (r) Lentiviral Particles: sc-63316-V.

Molecular Weight of GADD 45 γ : 17 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Jack, G.D., et al. 2007. Activated stress response pathways within multicellular aggregates utilize an autocrine component. *Cell. Signal.* 19: 772-781.

PROTOCOLS

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


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Try **GADD 45 γ (B-1): sc-393261**, our highly recommended monoclonal alternative to GADD 45 γ (N-19).