



GADD 45 γ (m): 293T Lysate: sc-120384

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 MEKK 4 activation.

REFERENCES

1. Murray, A.W. 1992. Creative blocks: cell-cycle checkpoints and feedback controls. *Nature* 359: 599-604.
2. 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.
3. Kastan, M.B., et al. 1992. A mammalian cell cycle checkpoint pathway utilizing p53 and GADD 45 is defective in ataxia-telangiectasia. *Cell* 71: 587-597.
4. Marx, J. 1994. New link found between p53 and DNA repair. *Science* 266: 1321-1322.
5. Smith, M.L., et al. 1994. Interaction of the p53-regulated protein GADD 45 with proliferating cell nuclear antigen. *Science* 266: 1376-1379.
6. Takekawa, M., et al. 1998. A family of stress-inducible GADD 45-like proteins mediate activation of the stress-responsive MTK1/MEKK 4 MAPKKK. *Cell* 95: 521-530.

CHROMOSOMAL LOCATION

Genetic locus: Gadd45g (mouse) mapping to 13 A5.

PRODUCT

GADD 45 γ (m): 293T Lysate represents a lysate of mouse GADD 45 γ transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

GADD 45 γ (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive GADD 45 γ antibodies. Recommended use: 10-20 μ l per lane.

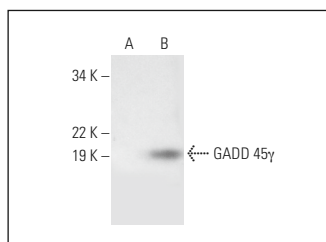
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GADD 45 γ (B-1): sc-393261 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse GADD 45 γ expression in GADD 45 γ transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



GADD 45 γ (B-1): sc-393261. Western blot analysis of GADD 45 γ expression in non-transfected: sc-117752 (A) and mouse GADD 45 γ transfected: sc-120384 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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