

## Product Information

### ANTI-GADD153/CHOP10

Developed in Rabbit  
Affinity Isolated Antibody

Product Number **G 6916**

#### Product Description

Anti-GADD153/CHOP10 is developed in rabbits using a synthetic peptide corresponding to amino acids 153-169 of human GADD153/CHOP10 with N-terminal lysine added, conjugated to keyhole limpet hemocyanin (KLH). The corresponding sequence in mouse and rat differs by 2 amino acids. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-GADD153/CHOP10 specifically recognizes human and rat GADD153/CHOP10 by immunoblotting (29 kDa). Staining of GADD153/CHOP10 by immunoblotting is inhibited by the immunizing peptide.

GADD153/CHOP10 (Growth Arrest and DNA Damage Inducible Protein 153, C/EBP Homology Protein) is a basic region leucine zipper transcription factor, devoid of DNA binding site. Its apparent molecular mass is 29 kDa (or 19 kDa calculated). GADD153 is capable of heterodimerizing with members of the CCAAT/enhancer binding protein (C/EBP) family of transcription factors. It is both an activating and a repressing factor that is markedly induced in response to many signals such as growth arrest, DNA damage, calcium ionophore, nutrient deprivation, hypoxia, hyperoxia, hyperosmosis, and endoplasmic reticulum stress. Heterodimerization of GADD153 with C/EBP $\beta$  inhibits the function of the latter by preventing its binding to DNA sequences specific for the homodimer. Binding of the heterodimer to another subset of genes may stimulate their transcription. Heterodimerization of GADD153 with members of certain non-C/EBP subfamilies, such as ATF3<sup>1</sup> and Jun/Fos, is also possible.

Heterotopic expression of GADD153 induces growth arrest in fibroblasts, inhibits adipocyte differentiation, and may be involved in apoptosis *in vitro*.<sup>2-6</sup> GADD153 is also involved in apoptosis in lungs of mice exposed to hyperoxia.<sup>7</sup> It is up regulated during certain stages of erythroid differentiation. GADD153 enhances differentiation of erythroid cells in which it may bind several nuclear proteins as well as the FTE/S3a ribosomal protein.<sup>5,8</sup> Regulation of GADD153 by phosphorylation via p38 MAPK is possible. A form of human myxoid

liposarcoma is characterized by a chromosomal translocation that involves GADD153 and FUS/TLS.<sup>9</sup>

#### Reagent

Anti-GADD153/CHOP10 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

#### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

#### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

A minimum working dilution of 1:250 is determined by immunoblotting using a whole extract of growth-arrested rat PC 12 pheochromocytoma cells, and a chemiluminescent detection system.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

#### References

1. Wolfgang, C.D., et al., *Mol. Cell Biol.*, **17**, 6700-6707 (1997).
2. Ron, D., and Habener, J.F., *Genes Dev.*, **6**, 439-453 (1992).
3. Luethy, J.D. et al., *J. Biol. Chem.*, **265**, 16521-16526 (1990).
4. Barone, M.V., et al., *Genes Dev.*, **8**, 453-464 (1994).

5. Coutts, M., et al., Blood, **93**, 3369-3378 (1999).
6. Tang, Q.Q., and Lane M.D., Proc. Natl. Acad. Sci. USA , **97**, 12446-12450 (2000).
7. O'Reilly, M.A., et al., Am. J. Physiol., **278**, L552-L559 (2000).
8. Cui, K., et al., J. Biol. Chem., **275**, 7591-7596 (2000).
9. Crozat, A., et al., Nature, **363**, 640-644 (1993).

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