Product No. H-1775
Lot 014H4835

Monoclonal Anti-Heat Shock Protein 90 (HSP90)
Mouse Ascites Fluid
Clone AC-16

Monoclonal Anti-Heat Shock Protein 90 (mouse IgG2b isotype) is derived from the AC-16 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from B1OS mice immunized with heat shock protein 90 purified from the water mold *Achlya ambisexualis*. The isotype is determined using Sigma ImmunoType™ Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is provided as ascites fluid with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Monoclonal Anti-Heat Shock Protein 90 (HSP90) recognizes HSP90 (88 kD) using immunoblotting. The antibody is reactive with both the constitutive and the inducible HSP90. However, it does not bind to the native form of HSP90. Cross-reactivity has been observed with human, rabbit, rat, mice, chicken, insect (*Sf*9 cell line), water mold (*Achlya*) and wheat germ, but not with *E. coli* and yeast.

Description

A wide variety of environmental perturbations, such as sudden increase in temperature, induce cells to rapidly synthesize a group of polypeptides known as the heat shock (stress) proteins.[1-4] These proteins are produced by prokaryotic and eukaryotic cells, and HSPs are among the most conserved molecules in phylogeny. The HSPs have been grouped into several families on the basis of their size and sequence homology: HSP100, HSP90, HSP70, HSP60, small HSPs and ubiquitin.[5] Two forms of cytoplasmic HSP90, designated α and β in humans and HSP86 and HSP84 in mice, have been described and shown to have an 86% homology. A glucose-regulated protein, GRP94, constitutes the third closely related member of the HSP90 family; this protein differs from the other, primarily cytosolic members of the family by its location in the endoplasmic reticulum (ER) and Golgi. HSP90 is relatively abundant in unstressed cells of most, if not all, prokaryotic and eukaryotic systems. HSP90 can be strongly induced by heat shock in some systems. It exists in a dimeric form and has been observed to bind to several other cellular proteins such as retrovirus kinases, steroid receptors, hemeregulated protein kinase, actin and tubulin. In this regard, HSP90 may function as a "molecular chaperone", as demonstrated *in vitro*.

Uses

Monoclonal Anti-Heat Shock Protein 90 may be used in immunoblotting.

Titer: 1:400

The antibody titer was determined by immunoblotting using cultured human foreskin fibroblasts.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilution by titration assay.

Storage

For continuous use, store at 0-5°C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is **not** recommended. Storage in "frost-free" freezers is **not** recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

* 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.

References

1. Lindquist, S., and Craig, E., Ann. Rev. Genet., **22**, 631 (1988).
2. Morimoto, R., et al., (eds), in: Stress Proteins in Biology and Medicine, Cold Spring Harbor Lab, Cold Spring Harbor, N.Y., 1 (1990).
3. Welch , W., in: Stress Proteins in Biology and Medicine, Morimoto, R., et al., (eds), Cold Spring Harbor Lab., Cold Spring Harbor, N.Y., 278 (1990).
4. Welch, W., Sci. Am., **268**, 34 (1993).
5. Kochevar. D., et al, Toxicol. Lett., **56**, 243 (1991).