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42-1419: Anti-HSP70 Monoclonal Antibody (Clone : 3A3) - ATTO 594

Clonality :	Monoclonal
Clone Name :	3A3
Application :	WB,IHC,ICC/IF,IP
Reactivity :	Human,Mouse,Rat,Chicken,Yeast |Drosophila
Conjugate :	ATTO 594
Gene :	HSPA1A
Gene ID :	3303
Uniprot ID :	P0DMV8
Alternative Name :	HSP72,HSPA1,HSX70
Isotype :	Mouse IgG1
Immunogen Information :	Human recombinant HSP70 overexpressed in E.coli

Description

HSP70 genes encode abundant heat-inducible 70-kDa HSPs (HSP70s). In most eukaryotes HSP70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50% identity. The N-terminal two thirds of HSP70s are more conserved than the C-terminal third. HSP70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides. When HSC70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44 kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half. The structure of this ATP binding domain displays multiple features of nucleotide binding proteins. All HSP70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the HSP70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein. The universal ability of HSP70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport.

Product Info

Amount :	100 µg
Purification :	Protein G Purified
Content :	PBS pH7.2, 50% glycerol, 0.09% sodium azide
Storage condition :	Store the antibody at 4°C

Application Note

WB (1:5000), ICC/IF (1:500), IP (2Ã□Âµg); optimal dilutions for assays should be determined by the user.

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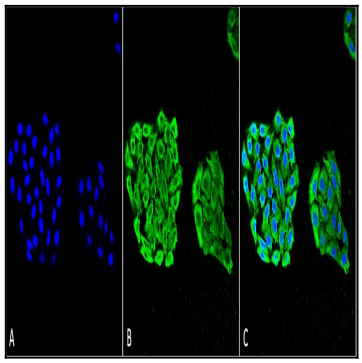

Figure1 : Mouse Anti-HSP70 Antibody [3A3] used in Immunocytochemistry/Immunofluorescence (ICC/IF) on Human Cervical Cancer cell line (HeLa)

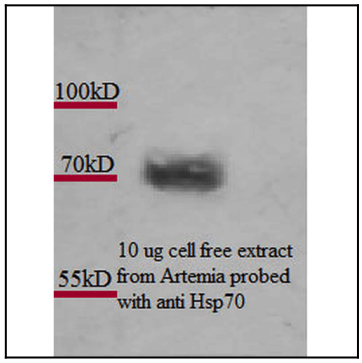

Figure 2 : Mouse Anti-Hsp70 Antibody [3A3] used in Western Blot (WB) on Artemia franciscanna (brine shrimp) cell lysates

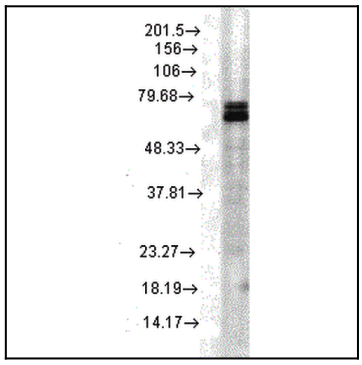

Figure 3 : Mouse Anti-Hsp70 Antibody [3A3] used in Western Blot (WB) on Rat cell lysates

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