

## Product datasheet for **AP31742PU-N**

### **HSP70-1A (HSPA1A) Rabbit Polyclonal Antibody**

#### **Product data:**

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	<b>Immunohistochemistry on Paraffin Sections:</b> 2 µg/ml. <b>Western Blot.</b>
Reactivity:	Human
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Synthetic peptide
Specificity:	Recognizes HSP70
Formulation:	PBS, pH 7.4 containing 0.02% Sodium Azide as preservative State: Aff - Purified State: Liquid purified Ig fraction
Concentration:	lot specific
Purification:	Affinity Chromatography
Conjugation:	Unconjugated
Storage:	Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	heat shock protein family A (Hsp70) member 1A
Database Link:	<a href="#">Entrez Gene 3303 Human P08107</a>



[View online »](#)

**Background:**

Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eucaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eucaryotes 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 (2). 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 (3). 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 (4). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (5).

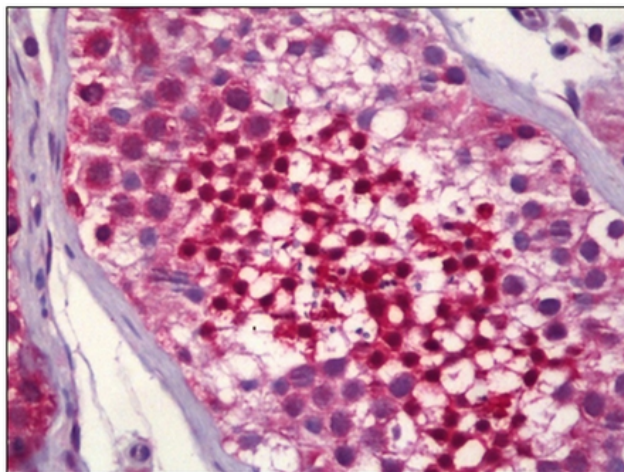
All hsp70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the hsp70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein (6). 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.

**Synonyms:**

HSP70.1, HSP70-1/HSP70-2, HSPA1A, HSPA1B, HSPA1

**Protein Pathways:**

Antigen processing and presentation, Endocytosis, MAPK signaling pathway, Prion diseases, Spliceosome

**Product images:**

Human Testis: Formalin-Fixed, Paraffin-Embedded (FFPE)