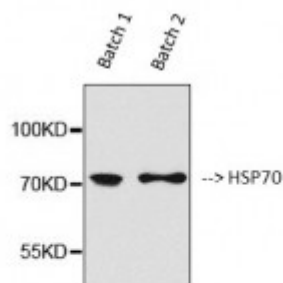


## Anti-HSP70 antibody



Western Blot (WB) analysis of skeletal muscle cell using HSP70 Antibody (STJ96944) from 2 batches, diluted at 1:2000



### Description

HSP70 is encoded by the HSPA gene family which includes many variants of the gene. It is approximately 70kDa. There are numerous members of the HSP70 heat shock protein. HSP70 is localised to the cytoplasm. It colocalizes with SHCBP1L at spindle during the meiosis process. HSP70 is a molecular chaperone that is implicated in a wide variety of cellular processes such as the quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. It is also considered a cellular thermometer in response to heat stress and other stimuli. HSP70 is expressed in nearly every cellular compartment in eukaryotes. Mutations in the HSPA gene result in protein folding disorders, autoimmune diseases and cancer. STJ96944 was developed from clone 3G10. The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen. This primary antibody binds endogenous HSP70.

|                       |                            |
|-----------------------|----------------------------|
| <b>Model</b>          | STJ96944                   |
| <b>Host</b>           | Mouse                      |
| <b>Reactivity</b>     | Human, Mouse, Rat          |
| <b>Applications</b>   | IF, WB                     |
| <b>Immunogen</b>      | Synthetic Peptide          |
| <b>Gene ID</b>        | <a href="#">3305</a>       |
| <b>Gene Symbol</b>    | <a href="#">HSPA1L</a>     |
| <b>Dilution range</b> | WB 1:1000-2000IF 1:100-200 |

|                                   |   |
|-----------------------------------|---|
| <b>Specificity</b>                | The antibody detects endogenous HSP70 proteins.   |
| <b>Tissue Specificity</b>         | Expressed in spermatids.  |
| <b>Purification</b>               | The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.  |
| <b>Clone ID</b>                   | 3G10  |
| <b>Note</b>                       | For Research Use Only (RUO).  |
| <b>Protein Name</b>               | Heat shock 70 kDa protein 1-like Heat shock 70 kDa protein 1L Heat shock 70 kDa protein 1-Hom HSP70-Hom   |
| <b>Clonality</b>                  | Monoclonal  |
| <b>Conjugation</b>                | Unconjugated  |
| <b>Isotype</b>                    | IgG1  |
| <b>Formulation</b>                | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.   |
| <b>Storage Instruction</b>        | Store at -20°C, and avoid repeat freeze-thaw cycles.  |
| <b>Database Links</b>             | <a href="#">HGNC:5234OMIM:140559</a>  |
| <b>Alternative Names</b>          | Heat shock 70 kDa protein 1-like Heat shock 70 kDa protein 1L Heat shock 70 kDa protein 1-Hom HSP70-Hom   |
| <b>Function</b>                   | Molecular chaperone implicated in a wide variety of cellular processes, including protection of the proteome from stress, folding and transport of newly synthesized polypeptides, activation of proteolysis of misfolded proteins and the formation and dissociation of protein complexes. Plays a pivotal role in the protein quality control system, ensuring the correct folding of proteins, the re-folding of misfolded proteins and controlling the targeting of proteins for subsequent degradation. This is achieved through cycles of ATP binding, ATP hydrolysis and ADP release, mediated by co-chaperones. The affinity for polypeptides is regulated by its nucleotide bound state. In the ATP-bound form, it has a low affinity for substrate proteins. However, upon hydrolysis of the ATP to ADP, it undergoes a conformational change that increases its affinity for substrate proteins. It goes through repeated cycles of ATP hydrolysis and nucleotide exchange, which permits cycles of substrate binding and release . Positive regulator of PRKN translocation to damaged mitochondria . |
| <b>Sequence and Domain Family</b> | The N-terminal nucleotide binding domain (NBD) (also known as the ATPase domain) is responsible for binding and hydrolyzing ATP. The C-terminal substrate-binding domain (SBD) (also known as peptide-binding domain) binds to the client/substrate proteins. The two domains are allosterically coupled so that, when ATP is bound to the NBD, the SBD binds relatively weakly to clients. When ADP is bound in the NBD, a conformational change enhances the affinity of the SBD for client proteins.   |