

PRODUCT INFORMATION



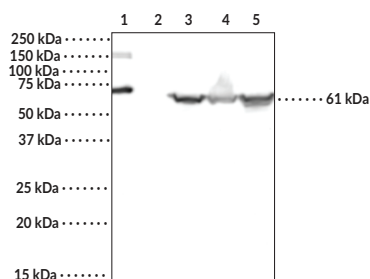
Hsp60 (HspD1) Polyclonal Antibody

Item No. 24531

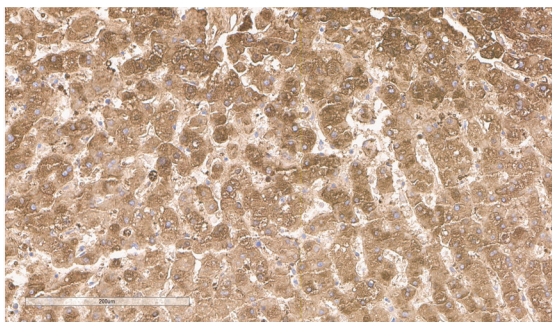
Overview and Properties

Contents:	This vial contains 100 µg of protein A-purified antibody
Synonyms:	60 kDa Chaperonin, Chaperonin 60, Cpn60, Heat Shock Protein 60, Mitochondrial Matrix Protein P1, P60 Lymphocyte Protein
Immunogen:	Human recombinant Hsp60 (HspD1)
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	P10809
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	ELISA, Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:200, and 1:1,000 for ELISA and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Hsp60 (HspD1) Recombinant Protein (0.1 µg)
Lane 2: Hsp27 (HspB1) Recombinant Protein (0.1 µg) [Negative Control]
Lane 3: Jurkat Cell Lysate (50 µg)
Lane 4: A549 Cell Lysate (50 µg)
Lane 5: HeLa Heat Shock Cell Lysate (50 µg)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human liver tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Hsp60 (HspD1) polyclonal antibody, (Item No. 24531), at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Heat shock protein 60 (Hsp60), also known as heat shock protein family D member 1 (HspD1), is an approximately 60 kDa protein that functions as a molecular chaperone.¹ It belongs to the type I subclass of chaperonins and is found in eubacteria, mitochondria, and chloroplasts where its expression is induced by stress. Hsp60 primarily exists as a heptameric ring that it is converted to a tetradecameric double-ring structure in the presence of ATP.² Within mitochondria, it associates with its co-chaperone, Hsp10, to form a barrel-like structure and refold proteins that have been shuttled to the mitochondria in an ATP-dependent manner.^{2,3} Hsp60 also has extramitochondrial functions such as the production of proinflammatory cytokines in human leukocytes and activation of innate immune receptors.^{4,5} Hsp60 expression is increased in the serum and saliva of patients with type 2 diabetes mellitus and mutations in *HSPD1* lead to neurodegenerative diseases.^{5,6} Cayman's Hsp60 (HspD1) Polyclonal Antibody can be used for Western blot and ELISA applications. The antibody recognizes Hsp60 (HspD1) at 60 kDa from human samples.

References

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2. Okamoto, T., Yamamoto, H., Kudo, I., *et al.* HSP60 possesses a GTPase activity and mediates protein folding with HSP10. *Sci. Rep.* **7(1)**, 16931 (2017).
3. Nisemblat, S., Parnas, A., Azem, A., *et al.* Crystallization and structure determination of a symmetrical 'football' complex of the mammalian mitochondrial Hsp60-Hsp10 chaperonins. *Acta Crystallogr. F Struct. Biol. Commun.* **70(Pt 1)**, 116-119 (2013).
4. Osterloh, A., Meier-Stiegen, F., Veit, A., *et al.* Lipopolysaccharide-free heat shock protein 60 activates T cells. *J. Biol. Chem.* **279(46)**, 47906-47911 (2004).
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6. Bross, P. and Fernandez-Guerra, P. Disease-associated mutations in the HSPD1 gene encoding the large subunit of the mitochondrial HSP60/HSP10 chaperonin complex. *Front. Mol. Biosci.* **3(49)**, 1-7 (2016).

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