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DATASHEET

Anti-HSP60 antibody ValidAb™

Product overview

Name Anti-HSP60 antibody ValidAb™

Cat No HB7863
Host Mouse
Clonality Monoclonal
Target HSP60

Customer comments Good product. I used it as a mitochondrial marker in primary microglial cells. It distributed evenly and

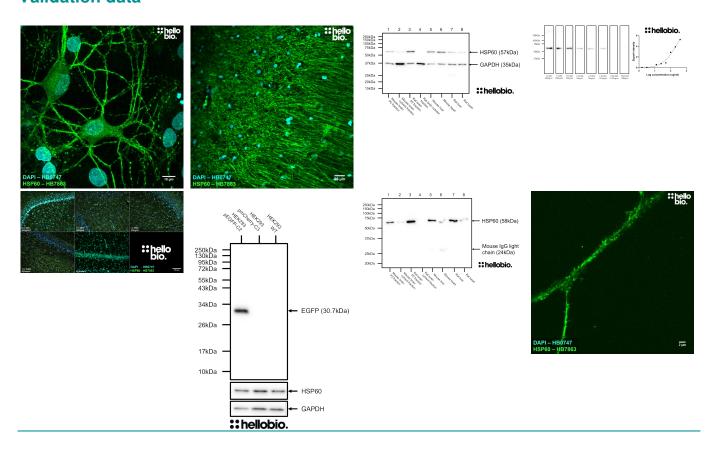
the mitochondrial network was stained very nicely. Also, I liked that I could still image my samples a few months after I mounted them, without any loss of the mitochondrial stain. Verified customer at

Hasselt University

Description Antibody to HSP60 - loading control and mitochondrial marker for immunohistochemistry and

immunocytochemistry. Part of the ValidAb™ range of highly validated, data-rich antibodies.

Validation data



Product information

Immunogen This antibody was a spontaneous auto-antibody therefore does not have an immunogen

Epitope Amino acids 390-409 of human HSP60 (LNERLAKLSDGVAVLKVGGT)

Clone number 1C7 Isotype IqG1

Purification Protein G affinity chromatography

Concentration

50% PBS, 50% glycerol + 5mM sodium azide Formulation

Predicted species reactivity Mouse, Rat, Human, Cat, Chicken, Cow, Dog, Fish, Horse, Monkey, Pig, Rabbit, Turkey

Tested species reactivity Mouse, Rat, Human

Tested applications

Applications WB, IHC(IF)

Western blot optimal 100ng/ml (1:10,000 dilution) as measured in rat brain P2 fraction

concentration

IHC(IF) optimal concentration 250ng/ml (1:4,000 dilution) as measured in rat hippocampal sections

Positive control

HSP60 is ubiquitously expressed in the mitochondria of nearly all mammalian cells and tissues. It is

also widely expressed in common cell lines.

Negative control HSP60 is a mitochondrial enzyme so complete subcellular fractionation should be sufficient to provide

a negative control. Due to its high expression, care should be taken to ensure that fractionation is

complete without any mitochondrial contamination.

Open data link Please follow this link to OSF

Target information

Other names 60 kDa heat shock protein, mitochondrial, 60 kDa chaperonin, Chaperonin 60, CPN60, Heat shock

protein 60, HSP-60, HuCHA60, Mitochondrial matrix protein P1, P60 lymphocyte protein, GroEL

UniProt ID P10809 Gene name HSPD1

NCBI full gene name heat shock protein family D (Hsp60) member 1

Entrez gene ID 3329 Amino acids 573 (61.1kDa)

Isoforms HSP60 has two isoforms:- Isoform 1 (canonical), 573aa, 61.1kDa; isoform 2, 158aa, 17.1kDa,

substitution between residues 144 and 158 (VMLAVDAVIAELKKQ → RNVCCHHSVLNFSV) and

deletion of residues 159-573.

Expression Expressed ubiquitously in all tissues

Subcellular expression Primarily expressed in the mitochondria but recent evidence suggests it is also expressed in the

cytosol, cell surface and extracelular space.

Target function HSP60 is a chaperone protein used to help fold proteins into the correct configuration for activity.

> HSP60 interacts with a range of proteins including HSP10 (involved in chaperone function) alongside p53 and survivin in apoptotic pathways.HSP60 also has an important roles in mitochondrial protein

transport and mtDNA replication.

Processina Amino acids 1-26 are a mitcochondrial localisation tag which are removed from the completed protein. Post translational HSP60 is subject to numerous post-translational modifications including acetylation, succinylation and

modifications phosphorylation

Homology (compared to human)

Similar proteins

Epitope homology (between

species)

Epitope homology (other

proteins)

Mouse and rat show 97.56% similarity to human HSP60 in a BLAST search

Nearest similarity protein is T-complex protein 1 subunit epsilon at 26% identity.

The epitope is 100% conserved between mouse, rat and human HSP60 sequences.

No proteins have sigificant homology to the epitope. The closest matches are: cTAGE-2 human 66.7%

identity, Olfactory receptor 6C70 human 71.4% identity

Storage & Handling

Storage instructions

-20°C

Important

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not

for human or veterinary use

References

Hsp60 expression, new locations, functions and perspectives for cancer diagnosis and therapy

Cappello et al (2008) Cancer Biol Ther 7(6) **PubMedID** 18497565

The Hsp70 and Hsp60 chaperone machines

Bukau B and Horwich AL (1998) Cell 92(3)

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Protein folding in mitochondria requires complex formation with hsp60 and ATP hydrolysis

Ostermann J et al (1989) Nature 341(6238) **PubMedID**2528694

Heat-shock proteins as activators of the innate immune system

Wallin R et al (2002) Trends in Immunology 23(3) **PubMedID** 11864840