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DATASHEET

Anti-HSP60 antibody ValidAb™

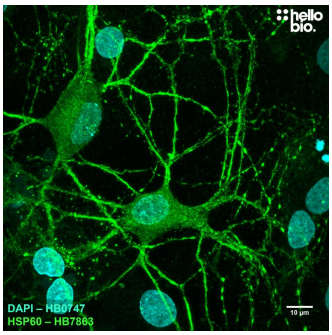
Product overview

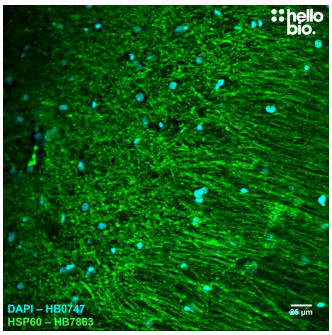
Name	Anti-HSP60 antibody ValidAb™
Cat No	HB7863
Host	Mouse
Clonality	Monoclonal
Target	HSP60
Customer comments	*Good product. I used it as a mitochondrial marker in primary microglial cells. It distributed evenly and the mitochondrial network was stained very nicely. Also, I liked that I could still image my samples a few months after I mounted them, without any loss of the mitochondrial stain. Verified customer at Hasselt University*

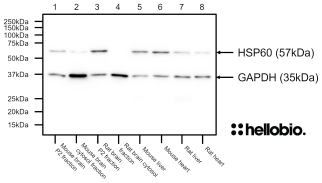
Description

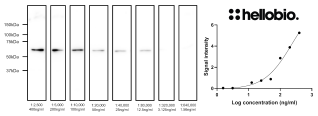
Antibody to HSP60 - loading control and mitochondrial marker for immunohistochemistry and immunocytochemistry. Part of the ValidAb™ range of highly validated, data-rich antibodies.

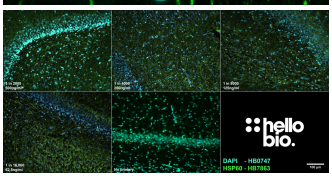
Validation data

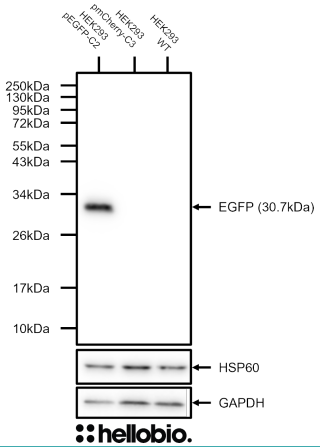


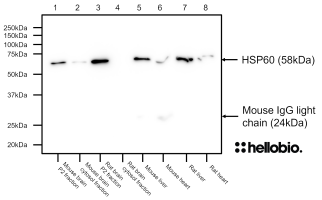


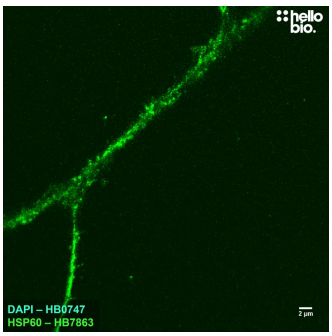












Product information

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	IgG1
Purification	Protein G affinity chromatography
Concentration	1mg/ml
Formulation	50% PBS, 50% glycerol + 5mM sodium azide
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 concentration	100ng/ml (1:10,000 dilution) as measured in rat brain P2 fraction
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.
Processing	Amino acids 1-26 are a mitcochondrial localisation tag which are removed from the completed protein.
Post translational modifications	HSP60 is subject to numerous post-translational modifications including acetylation, succinylation and phosphorylation
Homology (compared to human)	Mouse and rat show 97.56% similarity to human HSP60 in a BLAST search
Similar proteins	Nearest similarity protein is T-complex protein 1 subunit epsilon at 26% identity.
Epitope homology (between species)	The epitope is 100% conserved between mouse, rat and human HSP60 sequences.
Epitope homology (other proteins)	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

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)
PubMedID 9476895

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