abcam

ab230488

Anti-HEXA antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human HEXA aa 100-200 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P06865
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information HEXA

Function	Hydrolyzes the non-reducing end N-acetyl-D-hexosamine and/or sulfated N-acetyl-D-hexosamine of glycoconjugates, such as the oligosaccharide moieties from proteins and neutral glycolipids, or from certain mucopolysaccharides (PubMed:11707436, PubMed:8123671, PubMed:8672428, PubMed:9694901). The

isozyme S is as active as the isozyme A on the anionic bis-sulfated glycans, the chondroitin-6-sulfate trisaccharide (C6S-3), and the dermatan sulfate pentasaccharide, and the sulfated glycosphingolipid SM2 (PubMed:11707436). The isozyme B does not hydrolyze each of these substrates, however hydrolyzes efficiently neutral oligosaccharide (PubMed:11707436). Only the isozyme A is responsible for the degradation of GM2 gangliosides in the presence of GM2A (PubMed:8123671, PubMed:8672428, PubMed:9694901).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The HEXA gene codes for the enzyme Hexosaminidase A also known as hexosaminidase alpha or HEXA subunit. This enzyme has several subunits with a molecular mass of approximately 58 kDa. HEXA expresses in various tissues but it shows high expression in the brain and other neural tissues. Mechanically Hexosaminidase A is involved in the hydrolysis of GM2 gangliosides into GM3 by removing the N-acetylgalactosamine residue which plays a role in the degradation of glycolipids within lysosomes.
Biological function summary	Hexosaminidase A functions as part of the lysosomal enzyme complex partnering with the GM2 activator protein and another related enzyme Hexosaminidase B. The complex is critical in the catabolism of GM2 gangliosides a type of lipid found in cell membranes specifically in neuronal cell membranes. Efficient function of Hexosaminidase A prevents accumulation of the lipid ensuring cellular health particularly in neurons.
Pathways	Hexosaminidase A is significant within glycolipid metabolism pathways and lysosomal degradation pathways. It cooperates closely with enzymes like Hexosaminidase B and the GM2 activator protein within these processes. These pathways are important for the breakdown of gangliosides which prevents their accumulation and maintains cellular function in neuronal tissues.

Associated diseases and disorders	HEXA mutations have a direct link to Tay-Sachs disease a severe genetic disorder affecting nerve cells. This disorder results from HEXA mutations causing deficient enzyme activity leading to GM2 ganglioside accumulation. Additionally Sandhoff disease links through similar pathways though its relation more involves Hexosaminidase B deficiencies. Both disorders highlight the importance of a functioning Hexosaminidase A enzyme for normal neurological function.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

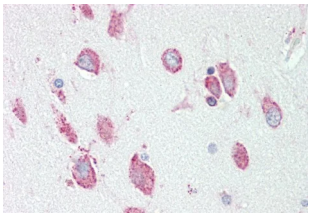
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

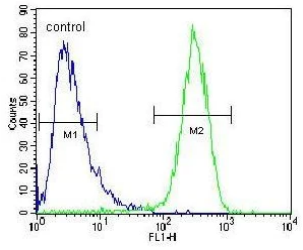
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HEXA antibody (ab230488)

HEXA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HEXA antibody

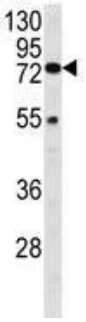
Formalin-fixed, paraffin-embedded human brain cortex tissue stained for HEXA using ab230488 at 1/50 dilution in immunohistochemical analysis.



Flow Cytometry (Intracellular) - Anti-HEXA antibody (ab230488)

HEXA Flow Cytometry (Intracellular) staining using rabbit Anti-HEXA antibody

Intracellular flow cytometric analysis of HepG2 (human liver hepatocellular carcinoma cell line) cell line labeling HEXA with ab230488 at 1/10 dilution (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

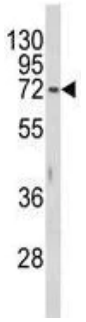


Western blot - Anti-HEXA antibody (ab230488)

All lanes:
Western blot - Anti-HEXA antibody (ab230488) at 1/1000 dilution

All lanes:
HepG2 (human liver hepatocellular carcinoma cell line) cell lysate at 35 µg

Predicted band size: 61 kDa



Western blot - Anti-HEXA antibody (ab230488)

All lanes:
Western blot - Anti-HEXA antibody (ab230488) at 1/1000 dilution

All lanes:
Mouse liver lysate at 35 µg

Predicted band size: 61 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.