abcam

ab53233

Anti-Otoferlin antibody [13A9]

Anti-Otoferlin antibody [13A9] (ab53233) is a mouse monoclonal antibody detecting Otoferlin in **Flow Cytometry, IHC-P**. Suitable for **Human, Mouse**.

- Over 30 publications
- Trusted since 2007

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: 2% Sucrose, 1.21% Tris, 0.75% Glycine
Form	Lyophilized
Clonality	Monoclonal
Immunogen	Recombinant Protein within Human OTOF aa 1 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q9HC10
Clone number	13A9
Purification technique	Affinity purification Protein A
Specificity	This antibody reacts specifically with human Otoferlin protein (220 kDa).
Light chain type	kappa
Reconstitution	Reconstitute with 100µl Water.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/500
Notes	-

Expected

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

Target data

See full target information OTOF

Function Key calcium ion sensor involved in the Ca(2+)-triggered synaptic vesicle-plasma membrane fusion and in the control of neurotransmitter release at these output synapses. Interacts in a calcium-dependent manner to the presynaptic SNARE proteins at ribbon synapses of cochlear inner hair cells (IHCs) to trigger exocytosis of neurotransmitter. Also essential to synaptic exocytosis in immature outer hair cells (OHCs). May also play a role within the recycling of endosomes (By similarity).

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

Notes

What is this antibody validated in?
Anti-Otoferlin antibody [13A9] (ab53233) is a mouse monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) (IHC-P) in Human, Mouse samples.

Trusted by the scientific community
Anti-Otoferlin [13A9] (ab53233) was first used in a scientific publication in 2007 and has been cited over 30 times in peer-reviewed journals.

Supplementary info

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

Activity summary	The otoferlin protein also known as OTOF plays an important mechanical role in the auditory system by serving as an important synaptic vesicle component for neurotransmitter release in inner hair cells of the cochlea. It has a molecular mass of approximately 230 kDa. Otoferlin is expressed primarily in the cochlea particularly in the sensory hair cells essential for hearing. Its functionality hinges on its capacity to serve as a calcium-sensor facilitating the rapid exocytosis of neurotransmitter-filled vesicles at the synaptic ribbon.
Biological function summary	Otoferlin contributes to sound perception by coordinating the timely release of synaptic vesicles that transmit auditory signals to the brain. It is part of a complex network within the auditory pathway interacting with other proteins important for synaptic function including synaptotagmin. Significant for its role in calcium-binding otoferlin participates in the fine-tuning of synaptic transmission ensuring efficient signaling required for precise auditory processing.
Pathways	

	Otoferlin is integral to the auditory signaling pathways especially the cochlear nerve pathway responsible for conveying sound information to the brain. It actively participates in vesicular trafficking and synaptic vesicle cycle ensuring high fidelity auditory signal transduction. Otoferlin works closely with proteins such as synaptophysin and syntaxin which are involved in the vesicle fusion process highlighting its role in facilitating efficient neurotransmitter release.
Associated diseases and disorders	Otoferlin has a significant association with auditory processing conditions. Mutations in the otoferlin gene lead to severe-to-profound hereditary hearing loss specifically a form of non-syndromic autosomal recessive hearing impairment (DFNB9). Through this condition otoferlin has connections to proteins involved in synaptic vesicle recycling malfunctions contributing to auditory neuropathy. Additionally otoferlin-related dysfunction implicates it in conditions affecting synaptic transmission stability which are vital considerations in therapeutic strategies for hearing loss.

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

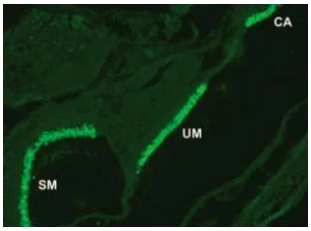
We do not recommend this combination. It is not covered by our product promise.

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:
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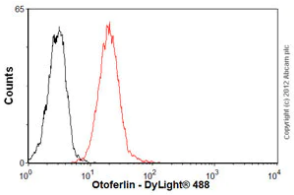
2 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Otoferlin antibody [13A9] (ab53233)

Otoferlin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Otoferlin antibody

IHC-P analysis of mouse inner ear tissue labeling Otoferlin with ab181781. At 30 days postnatal, Otoferlin is detected in the hair cells of the crista ampullaris (CA) , utricular macula (UM) and saccularmacula (SM).



Flow Cytometry - Anti-Otoferlin antibody [13A9] (ab53233)

Otoferlin Flow Cytometry staining using mouse Anti-Otoferlin antibody

Overlay histogram showing SHSY-5Y cells stained with ab53233 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab53233, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SHSY-5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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