abcam

ab47720

Anti-Inhibin alpha antibody [4A2F2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human INHA. The exact immunogen used to generate this antibody is proprietary information. Database link P05111
Clone number	4A2F2
Purification technique	Affinity purification Protein G
Specificity	This antibody is specific for Inhibin alpha.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

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.

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Target data

See full target information INHA

Function

Inhibins and activins inhibit and activate, respectively, the secretion of follitropin by the pituitary gland. Inhibins/activins are involved in regulating a number of diverse functions such as hypothalamic and pituitary hormone secretion, gonadal hormone secretion, germ cell development and maturation, erythroid differentiation, insulin secretion, nerve cell survival, embryonic axial development or bone growth, depending on their subunit composition. Inhibins appear to oppose the functions of activins. Inhibin A is a dimer of alpha/INHA and beta-A/INHBA that functions as a feedback regulator in the hypothalamic-pituitary-gonadal (HPG) axis. Inhibits the secretion of FSH from the anterior pituitary gland by acting on pituitary gonadotrope cells. Antagonizes activin A by binding to the proteoglycan, betaglycan, and forming a stable complex with and, thereby, sequestering type II activin receptors while excluding type I receptor. Inhibin B is a dimer of alpha and beta-B that plays a crucial role in the regulation of the reproductive system by inhibiting the secretion of follicle-stimulating hormone (FSH) from the anterior pituitary gland. Thereby, maintains reproductive homeostasis in both males and females. Acts as a more potent suppressor of FSH release than inhibin A (By similarity). Functions as competitive receptor antagonist binding activin type II receptors with high affinity in the presence of the TGF-beta type III coreceptor/TGFBR3L (PubMed:34910520).

Storage

Shipped at conditions	Blue Ice
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	Inhibin alpha also known as alpha-inhibin is a subunit of the inhibin protein complex. As a 32 kDa glycoprotein inhibin exerts its role as a modulator of hormone activities by forming heterodimers with various beta subunits typically expressed in the gonads adrenal glands and pituitary gland. Inhibin alpha not only influences the secretion of follicle-stimulating hormone (FSH) but also acts as an important player in reproductive endocrinology. Its expression can be assessed through inh alpha R1 and po12 markers offering insights through inhibin immunohistochemistry.
Biological function summary	Inhibin alpha forms part of the inhibin hormone complex which primarily serves as a negative regulator of FSH secretion. Insufficient levels of inhibin can disrupt normal metabolic functions impacting reproductive systems. The inhibin alpha subunit is vital for maintaining reproductive homeostasis and monitoring the inhibin staining pattern provides a useful diagnostic tool in reproductive health assessments. Inhibin binds to activin receptors where it blocks FSH release from the anterior pituitary gland reinforcing its role in managing the reproductive axis.
Pathways	Inhibin alpha is critically involved in the transforming growth factor-beta (TGF-beta) signaling pathway. This pathway plays a major role in cell differentiation and proliferation where inhibin competes with activin for the same receptors ultimately reducing FSH synthesis. Additionally inhibin functions within endocrine regulatory mechanisms ensuring the reproductive hormones maintain their balance alongside related proteins such as activin and follistatin each contributing uniquely to signaling processes.
Associated diseases and disorders	Inhibin alpha alterations can significantly influence conditions like polycystic ovary syndrome (PCOS) and certain gonadal tumors. Abnormal levels of inhibin are often observed in PCOS where disrupted endocrine feedback leads to infertility issues. Gonadal tumors also relate to increased inhibin expression providing a biomarker for diagnosis and progression monitoring. Through these diseases inhibin alpha interacts with proteins such as luteinizing hormone playing part in their systemic dysfunctions within the affected individuals.

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

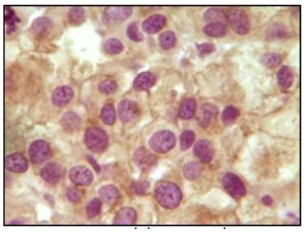
We do not recommend this combination. It is not covered by our product promise.

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.

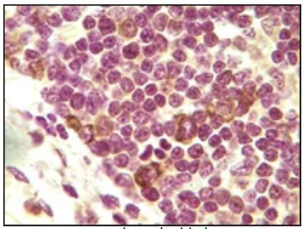
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Inhibin alpha antibody [4A2F2] (ab47720)

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

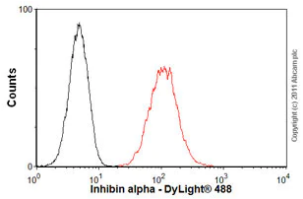
Immunohistochemical analysis of paraffin-embedded human testicle tumor tissue showing cytoplasmic/ membrane localization using ab47720 at a 1/500 dilution, with DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Inhibin alpha antibody [4A2F2] (ab47720)

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

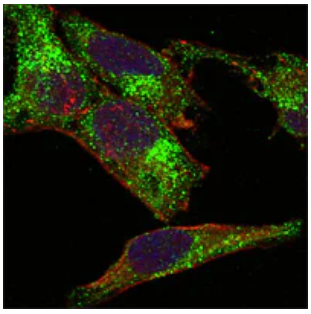
Immunohistochemical analysis of paraffin-embedded human lymphoid tissue showing cytoplasmic/ membrane localization using ab47720 at a 1/500 dilution, with DAB staining.



Flow Cytometry - Anti-Inhibin alpha antibody [4A2F2] (ab47720)

Inhibin alpha Flow Cytometry staining using mouse Anti-Inhibin alpha antibody

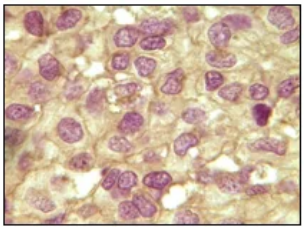
Overlay histogram showing HeLa cells stained with ab47720 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab47720, 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 HeLa cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Tween used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Anti-Inhibin alpha antibody [4A2F2] (ab47720)

Inhibin alpha Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Inhibin alpha antibody

ab47720 at 1/1000 dilution staining Inhibin alpha in human Hela cells by immunocytochemistry/ Immunofluorescence. An Alexa Fluor® 488 conjugated Goat polyclonal to mouse IgG was used as secondary antibody. The primary show green staining in image while actin filaments have been labelled red with DY-554 phalloidin. Nuclei were stained blue with DRAQ5 DNA fluorescent dye.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Inhibin alpha antibody [4A2F2] (ab47720)

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Immunohistochemical analysis of paraffin-embedded human ovary tumor tissue showing cytoplasmic/ membrane localization using ab47720 at a 1/500 dilution, with DAB staining.

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