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ab326171

SNv428 Anti-AIF antibody [E20]

Rabbit Recombinant Monoclonal AIF antibody - conjugated to SNv428.

Suitable for Flow Cyt(Intra) and reacts with Human samples.

This is a Beckman Coulter product distributed by Abcam

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	SNv428
Excitation/Emission	Ex: 405nm, Em: 428nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 0.2% BSA, 0.02% Pluronic F-68
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	E20
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/200
Notes	-

Target data

See full target information AIFM1

Function	Functions both as NADH oxidoreductase and as regulator of apoptosis (PubMed:17094969, PubMed:20362274, PubMed:23217327, PubMed:33168626). In response to apoptotic stimuli, it is released from the mitochondrion intermembrane space into the cytosol and to the nucleus, where it functions as a proapoptotic factor in a caspase-independent pathway (PubMed:20362274). Release into the cytoplasm is mediated upon binding to poly-ADP-ribose chains (By similarity). The soluble form (AIFsol) found in the nucleus induces 'parthanatos' i.e. caspase-independent fragmentation of chromosomal DNA (PubMed:20362274). Binds to DNA in a sequence-independent manner (PubMed:27178839). Interacts with EIF3G, and thereby inhibits the EIF3 machinery and protein synthesis, and activates caspase-7 to amplify apoptosis (PubMed:17094969). Plays a critical role in caspase-independent, pyknotic cell death in hydrogen peroxide-exposed cells (PubMed:19418225). In contrast, participates in normal mitochondrial metabolism. Plays an important role in the regulation of respiratory chain biogenesis by interacting with CHCHD4 and controlling CHCHD4 mitochondrial import (PubMed:26004228). Isoform 4. Has NADH oxidoreductase activity. Does not induce nuclear apoptosis. Isoform 5. Pro-apoptotic isoform.

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	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

This is a Beckman Coulter product distributed by Abcam.

The SuperNova dye included in this product is provided under an intellectual property license from Beckman Coulter Life Sciences. As this product contains the SuperNova dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity).

Supplementary info

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

Activity summary	AIF short for Apoptosis-Inducing Factor is a flavoprotein characterized by its mass of approximately 57 kDa. It resides in the mitochondria of cells where it plays a decisive role in apoptosis. Under normal conditions AIF remains in the mitochondrial intermembrane space but when cells receive apoptotic signals AIF translocates to the nucleus leading to chromatin condensation and large-scale DNA fragmentation. The protein is also known as AIFM1 and performs functions beyond apoptosis including regulation of reactive oxygen species. Often analyzed using tools like a mitochondrial AB marker researchers use AIF as an important part of understanding cell death mechanisms.
Biological function summary	AIF functions as an important element in mitochondrial-mediated apoptosis. Once released from mitochondria AIF triggers a caspase-independent pathway of apoptosis making it distinct from other pathways where caspases are central. While not part of a larger protein complex AIF interacts closely with several mitochondrial and nuclear elements to execute its functions. Researchers often monitor AIF activity using apoptosis ELISA kits which help in precise detection and quantification of this protein within cellular systems.
Pathways	The presence and activity of AIF align with the broader apoptotic pathway and mitochondrial respiration. AIF links significantly with other molecules like cytochrome c released during apoptosis although cytochrome c follows a caspase-dependent pathway. It also shows involvement in various cellular injury and stress response pathways reinforcing its role as a major player in cellular fate decisions and intrinsic apoptotic mechanisms.

Associated diseases and disorders	AIF holds relevance in neurodegenerative disorders such as Parkinson's disease and certain forms of cancer. Misregulation or mutations in AIF can lead to increased susceptibility to these conditions highlighting its importance in maintaining normal cellular and mitochondrial function. AIF also interacts with other proteins implicated in these disorders such as E2F1 in cancer which shares similar apoptotic regulatory roles. These interactions highlight the biological significance of AIF beyond its fundamental apoptosis function making it a potential target for therapeutic interventions.

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

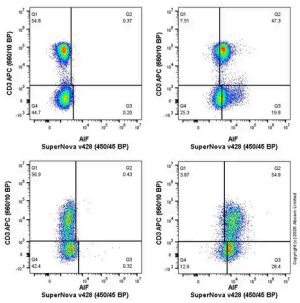
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry (Intracellular) - SNv428 Anti-AIF antibody [E20] (ab326171)

AIF Flow Cytometry (Intracellular) staining of Human peripheral mononuclear cells (PBMCs) using rabbit Anti-AIF antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab326171 (right) or FMO control (left). The cells were fixed and permeabilised using BD CytoFix/CytoPerm™ (20 min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG, 10% normal goat serum and BD Pharmingen™ MonoBlock™ Leukocyte Staining Buffer (1/10) to block FC receptors and non-

specific protein-protein interaction followed by the antibody (ab326171) (1x 106 in 100µl at 1 µg/ml (1/200)) for 30min on ice. The cells were simultaneously stained with CD3. Acquisition of >30000 events were collected using a 100 mW Violet laser (405nm) and 450/45 bandpass filter.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.

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