abcam

ab320365

Alexa Fluor® 647 Anti-Estrogen Related Receptor alpha antibody [EPR46Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR46Y
Purification technique	Affinity purification Protein A

Reactivity data

Antibody Labelling

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Target Binding Affinity

Expected

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

Flow Cyt

Expected

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

Target data

See full target information ESRRA

Function	Binds to an ERR-alpha response element (ERRE) containing a single consensus half-site, 5'-TNAAGGTCA-3'. Can bind to the medium-chain acyl coenzyme A dehydrogenase (MCAD) response element NRRE-1 and may act as an important regulator of MCAD promoter. Binds to the C1 region of the lactoferrin gene promoter. Requires dimerization and the coactivator, PGC-1A, for full activity. The ERRalpha/PGC1alpha complex is a regulator of energy metabolism. Induces the expression of PERM1 in the skeletal muscle.

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, Store in the dark

Notes

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.

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.

How are conjugated primary antibodies validated?
This conjugated primary antibody is released using a quantitative quality control method that evaluates binding affinity post-conjugation and efficiency of antibody labeling.
For suitable applications and species reactivity, please refer to the unconjugated version of this clone.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® 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). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or outlicensing@thermofisher.com.

Supplementary info

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

Activity summary	Estrogen Related Receptor Alpha (ERRα) also known as NR3B1 is an orphan nuclear receptor with a molecular mass of approximately 51 kDa. It acts as a transcription factor and influences the expression of genes involved in energy metabolism. ERRα is expressed in numerous tissues such as the liver heart kidney and skeletal muscles. It binds to DNA as a monomer and alters specific gene expression activities. This protein lacks an identified ligand which classifies it as an orphan receptor but it shares structural similarities with estrogen receptors allowing the regulation of gene transcription in several physiological contexts.

Biological function summary	Estrogen Related Receptor Alpha regulates cellular energy production processes including mitochondrial biogenesis and oxidative phosphorylation. It plays a role in the biological function of energy homeostasis and increases the expression of genes related to metabolic processes. ERRα operates as part of a transcriptional regulatory network and interacts with other nuclear receptors and coactivators to modulate its activity. It often forms complexes with coactivators such as peroxisome proliferator-activated receptor gamma coactivator 1-alpha (PGC-1α) to exert its effects on mitochondrial function.
Pathways	ERRα is integral to the PGC-1α signaling pathway and the AMPK (AMP-activated protein kinase) signaling pathway. These pathways are important in regulating energy metabolism and adaptive thermogenesis. ERRα interacts with PGC-1α to enhance mitochondrial function and energy expenditure while AMPK activation affects ERRα transcriptional activity and facilitates cellular energy balance. Additionally ERRα cross-talks with other nuclear receptors like PPAR (peroxisome proliferator-activated receptor) family members which are involved in lipid metabolism and glucose homeostasis.
Associated diseases and disorders	ERRα has implications in metabolic conditions such as diabetes and obesity. The protein links to diabetes through its role in mitochondrial dysfunction and insulin resistance. Obesity-related studies point out how ERRα affects adaptive thermogenesis and lipid metabolism contributing to energy imbalance. ERRα-PPAR interactions highlight its association in metabolic disorders influencing various aspects of metabolism and disease progression. Understanding ERRα function offers therapeutic potential for targeting metabolic diseases.

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.

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