abcam

ab264547

Anti-EGFR antibody [EMab-134] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EMab-134
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1.008 - 1.018 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information EGFR

Function	Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses (PubMed:10805725, PubMed:27153536, PubMed:2790960, PubMed:35538033). Known ligands include EGF, TGFA/TGF-alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF (PubMed:12297049, PubMed:15611079, PubMed:17909029, PubMed:20837704, PubMed:27153536, PubMed:2790960, PubMed:7679104, PubMed:8144591, PubMed:9419975). Ligand binding triggers receptor homo- and/or heterodimerization and autophosphorylation on key cytoplasmic residues. The phosphorylated receptor recruits adapter proteins like GRB2 which in turn activates complex downstream signaling cascades. Activates at least 4 major downstream signaling cascades including the RAS-RAF-MEK-ERK, PI3 kinase-AKT, PLCgamma-PKC and STATs modules (PubMed:27153536). May also activate the NF-kappa-B signaling cascade (PubMed:11116146). Also directly phosphorylates other proteins like RGS16, activating its GTPase activity and probably coupling the EGF receptor signaling to the G protein-coupled receptor signaling (PubMed:11602604). Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin (PubMed:11483589). Positively regulates cell migration via interaction with CCDC88A/GIV which retains EGFR at the cell membrane following ligand stimulation, promoting EGFR signaling which triggers cell migration (PubMed:20462955). Plays a role in enhancing learning and memory performance (By similarity). Plays a role in mammalian pain signaling (long-lasting hypersensitivity) (By similarity). Isoform 2 may act as an antagonist of EGF action. (Microbial infection) Acts as a receptor for hepatitis C virus (HCV) in hepatocytes and facilitates its cell entry. Mediates HCV entry by promoting the formation of the CD81-CLDN1 receptor complexes that are essential for HCV entry and by enhancing membrane fusion of cells expressing HCV envelope glycoproteins.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab264547 is the carrier-free version of ab264540.

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.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	EGFR or Epidermal Growth Factor Receptor is a transmembrane glycoprotein that acts as a receptor for members of the epidermal growth factor family. Known alternatively as ErbB1 or HER1 this receptor has an approximate molecular weight of 170 kDa. EGFR is expressed in various cell types notably on epithelial cells and can influence multiple cellular processes through its kinase activity. It participates in the regulation of cell growth multiplication and survival by activating its kinase domain upon ligand binding.
Biological function summary	The EGFR protein plays an important role in cellular communication and signaling processes. EGFR pairs with other receptor family members to form active dimers or even higher-order complexes which in turn initiate intracellular signaling cascades. Through these complexes EGFR influences many processes including cell differentiation and repair. This function of EGFR makes it an integral part of mammalian biology affecting how cells respond to their environment by mediating changes in gene expression.
Pathways	EGFR is a central player in the MAPK and PI3K/Akt signaling pathways. Alongside other protein partners like KRAS and PI3 kinase it contributes to transmitting signals from the cell surface to the nucleus affecting gene transcription and cell behavior. These pathways are important for normal cell growth and division and aberrations in these pathways can lead to excessive or insufficient cell proliferation.

Associated diseases and disorders	EGFR is pertinent to cancer biology including non-small cell lung cancer and glioblastoma where mutations or overexpression of the receptor frequently occur. It connects to proteins such as PTEN and BRAF which influence tumor progression and response to targeted therapies. EGFR's involvement in these disorders highlights its significance as a therapeutic target since it can be manipulated to alter disease progression.

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

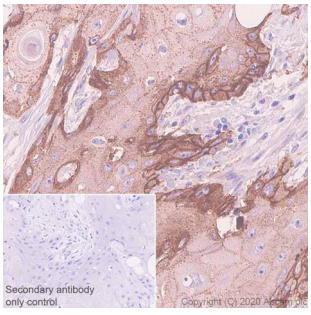
We do not recommend this combination. It is not covered by our product promise.

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



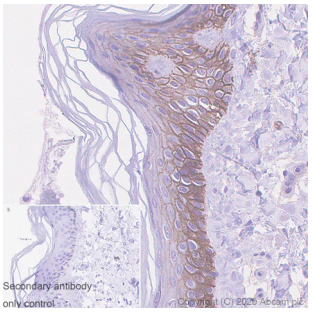
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EGFR antibody [EMab-134] - BSA and Azide free (ab264547)

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

Immunohistochemical analysis of paraffin-embedded human oral carcinoma tissue labeling EGFR with ab264540 at 1/100 dilution followed by a ready to use secondary. Membranous staining on human oral carcinoma tissue is observed. The section was incubated with ab264540 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX

instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use.
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This image was produced using the same antibody clone but in a different formulation containing PBS, sodium azide, glycerol and BSA (ab264540).

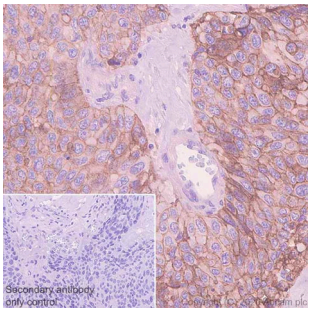


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EGFR antibody [EMab-134] - BSA and Azide free (ab264547)

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

Immunohistochemical analysis of paraffin-embedded human skin tissue labeling EGFR with ab264540 at 1/100 dilution followed by a ready to use secondary. Membranous staining on human skin is observed. The section was incubated with ab264540 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use.
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

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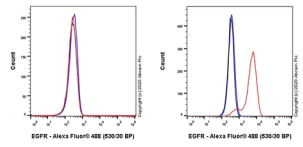


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-EGFR antibody [EMab-134] - BSA and Azide free (ab264547)

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

Immunohistochemical analysis of paraffin-embedded human lung carcinoma tissue labeling EGFR with ab264540 at 1/100 dilution followed by a ready to use secondary. Membranous staining on human lung carcinoma tissue is observed. The section was incubated with ab264540 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND®RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use.
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This image was produced using the same antibody clone but in a different formulation containing PBS, sodium azide, glycerol and BSA (ab264540).



Flow Cytometry - Anti-EGFR antibody [EMab-134] - BSA and Azide free (ab264547)

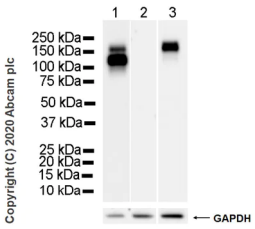
EGFR Flow Cytometry staining using mouse Anti-EGFR antibody

Flow cytometric analysis of SW620 (human colorectal adenocarcinoma epithelial cell, Left panel), A431 (human epidermoid carcinoma epithelial cell, Right panel) cells labelling EGFR with ab264540 at 1/100 dilution (1µg) (Red) compared with a mouse monoclonal IgG (Black) isotype

control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.
Negative control: SW620.

Gated on viable cells.

This image was produced using the same antibody clone but in a different formulation containing PBS, sodium azide, glycerol and BSA (ab264540).



Western blot - Anti-EGFR antibody [EMab-134] - BSA and Azide free (ab264547)

EGFR Western blot staining using mouse Anti-EGFR antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure times: Lane 1, 2: 15 secs; Lane 3: 8 secs.

The molecular weight observed is in consistent with the literature (PMID: 9090976).
Negative control: SW620 (PMID: 19789347).

This image was produced using the same antibody clone but in a different formulation containing PBS, sodium azide, glycerol and BSA (ab264540).

All lanes:
Western blot - Anti-EGFR antibody [EMab-134] (ab264540) at 1/1000 dilution

Lane 1:
A431 (human epidermoid carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
SW620 (human colorectal adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 3:
MDA-MB-468 (human breast adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-Conjugated Goat anti-Mouse IgG (H+L) at 1/10000 dilution

Predicted band size: 134 kDa

Observed band size: 130 kDa, 180 kDa

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