

Mouse anti-Human EGFR Antibody | anti-EGFR antibody

Anti-EGFR [Matuzumab], Mouse IgG1

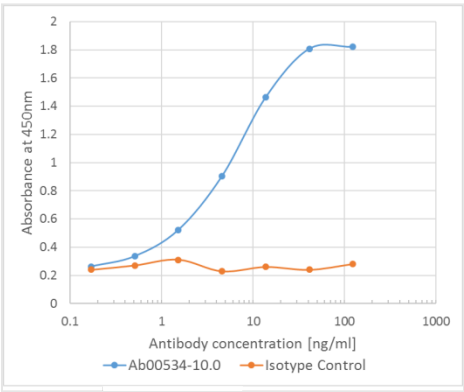
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA72239	Mouse	Human	Western Blot, Immunofluorescence, Flow Cytometry, Functional Assay, ELISA

PRODUCT SYNONYMS

EGFR; Anti-EGFR [Matuzumab]; Mouse IgG1; ErbB-1; ERBB1; HER1; EGF; Epidermal growth factor receptor; Proto-oncogene c-ErbB-1; Receptor tyrosine-protein kinase erbB-1; EMD72000; mAb425; 425; mAb 425; anti-EGFR antibody

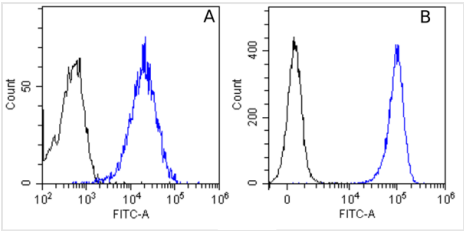
PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human
Isotype	Mouse IgG1, Kappa
Clone Number	Matuzumab
Specificity	This antibody binds the extracellular domain III of the human EGFR and does not cross react with murine EGFR. It was also reported that residues S460/G461 in EGFR domain III are essential components of the epitope. This antibody binds at a site distinct from the EGF binding site, preventing conformational re-arrangement required for dimerization, a process essential for high-affinity ligand binding (Schmiedel, 2008). This antibody can only recognize the active form of EGFR. The antibody binds to both glyco- and aglyco receptor forms. EGFR is a transmembrane mitogenic glycoprotein with a cytoplasmically facing tyrosine kinase site which is activated by binding of the epidermal growth factor in the external domain. It also binds transforming growth factor alpha (TGFα). EGFR a member of the epidermal growth factor family and is closely related to receptor tyrosine kinases. This receptor tyrosine kinase binds ligands of the EGF family and activates signalling cascades to convert extracellular cues into appropriate cellular responses. Mutations that lead to EGFR overexpression (known as upregulation) or overactivity have been associated with a number of cancers, including lung cancer, anal cancers and glioblastoma multiforme as well as inflammatory diseases.
Purity/Purification	Protein A affinity purified
Form/Format	PBS with 0.02% Proclin 300.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-EGFR antibody	WB (Western Blot), IF (Immunofluorescence), FCM/FACS (Flow Cytometry), ELISA, Blocking, Antagonistic Antibody
Immunogen	The parental mouse antibody was generated by immunizing BALB/c mice intraperitoneally with A431 cells in phosphate buffered saline (PBS). Later on the humanized version of the antibody was created by grafting CDRs of the murine antibody onto human constant regions.
Chimeric Use Statement	This chimeric murine antibody was made using the variable domain sequences of the original Human IgG1 format, for improved compatibility with existing reagents, assays and techniques.
Preparation and Storage	Store at 4 degree C for up to 3 months. For longer storage, aliquot and store at -20 degree C.



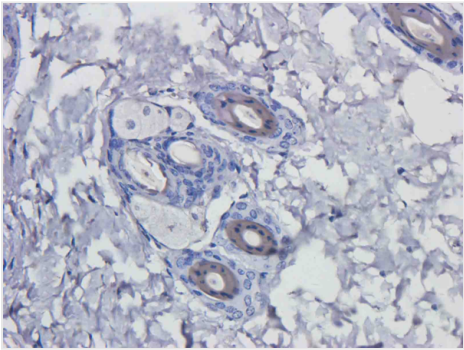
ELISA

Binding curve of anti-EGFR antibody Matuzumab (AAA72239-10.0) to EGFR-Fc fusion protein ELISA Plate coated with human EGFR-Fc (Pr00117-10.9) at a concentration of 5 ug/ml. A 3-fold serial dilution from 100 to 0.1 ng/ml was performed using AAA72239-10.0. For detection, a 1:4000 dilution of HRP labelled anti-human kappa light chain antibody was used.



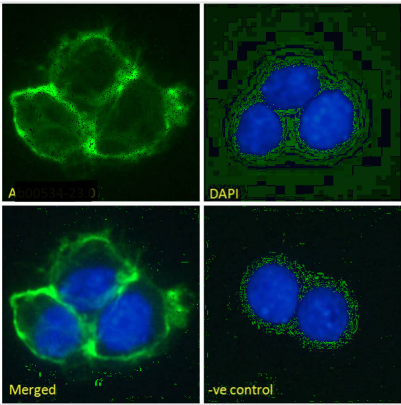
FCM/FACS (Flow Cytometry)

Flow-cytometry using the anti-EGFR antibody Matuzumab (AAA72239) HeLa (A) and A431 (B) cells were stained with unimmunized rabbit IgG antibody (black line) or the rabbit-chimeric version of Matuzumab (AAA72239-23.0, blue line) at a concentration of 10 ug/ml for 30 mins at RT. After washing, bound antibody was detected using an anti-rabbit IgG JK (FITC-conjugate) antibody (129936) at 2 ug/ml and cells analyzed on a FACSCanto flow-cytometer.



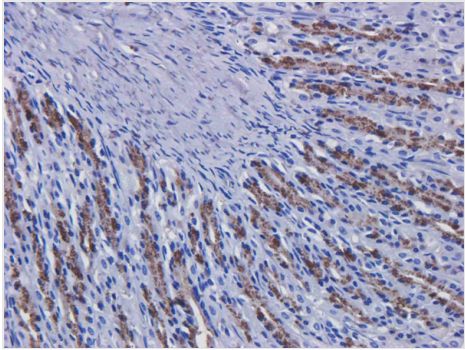
IHC (Immunohistochemistry)

Immunohistochemical staining of mouse skin tissue using anti-EGFR antibody (AAA72239) Matuzumab. Anti-EGFR staining of formaldehyde fixed paraffin embedded mouse skin tissue, at 40x magnification. The human IgG1-chimeric version of Matuzumab (AAA72239-10.0) was used to stain samples at a concentration of 5 ug/ml.



IF (Immunofluorescence)

Immunofluorescence staining of fixed A431 cells with anti-EGFR antibody Matuzumab (AAA72239) Immunofluorescence analysis of unpermeabilised paraformaldehyde fixed A431 cells on Shi-fix coverslips stained with the chimeric rabbit version of Matuzumab (AAA72239-23.0) at 10 ug/ml for 1h followed by Alexa Fluor 488 secondary antibody (1 ug/ml), showing membrane staining. The nuclear stain is DAPI (blue). Panels show from left-right, top-bottom AAA72239-23.0, DAPI, merged channels and an isotype control. The isotype control was stained with unimmunised rabbit IgG followed by Alexa Fluor 488 secondary antibody.



IHC (Immunohistochemistry)

Immunohistochemical staining of rat stomach tissue using anti-EGFR antibody (AAA72239) Matuzumab. Anti-EGFR staining of formaldehyde fixed paraffin embedded rat stomach tissue, at 40x magnification. The human IgG1-chimeric version of Matuzumab (AAA72239-10.0) was used to stain samples at a concentration of 5 ug/ml.

ADDITIONAL INFORMATION

Related Product Information for anti-EGFR antibody	This antibody is derived from a mouse parental clone mAb 425 which has demonstrated anti-tumor activity against solid tumors in phase I clinical trials. The binding characterization of this antibody to human EGFR was done using ELISA. This antibody was also found to bind human EGFR with a similar avidity as the parental mouse antibody 425 (PMID: 1798701). The parental mouse antibody 425 in combination with C225 (Cetuximab) reduced growth and survival of EGFR overexpressing MDA-MB-468 breast cancer cells more effectively than either antibody alone. The combination was also reported to effectively inhibited AKT and MAPK phosphorylation in MDA-MB-468 cell (PMID: 18424917). This antibody was used in a phase 1 study to investigate the safety and tolerability and to explore the pharmacokinetic and pharmacodynamic profile in patients with solid tumors that express EGFR (PMID: 14701780). This antibody has been used in various phase I studies alone or in combination with other therapeutic agents to treat patients with various type of cancers (PMID: 16533873; 16622465; 19238629). A study reported that the antitumor effects of matuzumab and cetuximab depend on inhibition of EGFR downstream signaling mediated by Akt or Erk rather than on inhibition of EGFR itself (PMID: 18033688).
Product Categories/Family for anti-EGFR antibody	tumor marker; biosimilar; immunotherapy; cancer; oncology; tumor; glioma
References	Kettleborough et al. Humanization of a mouse monoclonal antibody by CDR-grafting: the importance of framework residues on loop conformation. Protein Eng. 1991 Oct;4(7):773-83. PMID:1798701

NCBI AND UNIPROT INFORMATION

NCBI GI #	29725609
NCBI GeneID	1956
NCBI Accession #	NP_005219.2
NCBI GenBank Nucleotide #	NM_005228.3
UniProt Accession #	P00533; O00688; O00732; P06268; Q14225; Q68GS5; Q92795; Q9BZS2; Q9GZX1; Q9H2C9; Q9H3C9; Q9UMD7
Molecular Weight	134,277 Da
NCBI Official Full Name	epidermal growth factor receptor isoform a
NCBI Official Synonym Full Names	epidermal growth factor receptor
NCBI Official Symbol	EGFR
NCBI Official Synonym Symbols	ERBB; HER1; mENA; ERBB1; PIG61
NCBI Protein Information	epidermal growth factor receptor; proto-oncogene c-ErbB-1; cell growth inhibiting protein 40; cell proliferation-inducing protein 61; receptor tyrosine-protein kinase erbB-1; avian erythroblastic leukemia viral (v-erb-b) oncogene homolog
UniProt Protein Name	Epidermal growth factor receptor
UniProt Gene Name	EGFR
UniProt Synonym Gene Names	ERBB; ERBB1; HER1
UniProt Entry Name	EGFR_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/mouse-human-antibody/egfr/72239>