Technical Data Sheet

RecombiMAb anti-mouse EGFR (domain I)

Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at https://bioxcell.com/terms-and-conditions.

Lot Specific Information

Lot Number: **Lot Specific***
Volume: **Lot Specific***
Concentration: **Lot Specific* (generally 4 to 11 mg/ml) ***
Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Product Information

Catalog Number:	**CP106**
Clone:	**EMab-300-CP106**
Isotype:	Mouse IgG2a, κ
Recommended Isotype Control(s):	RecombiMAb mouse IgG2a isotype control, unknown specificity
Recommended Dilution Buffer:	InVivoPure pH 7.0 Dilution Buffer
Reported Applications:	ELISA Flow cytometry For details on *in vivo* applications please contact technicalservice@bioxcell.com
Formulation:	PBS, pH 7.0 Contains no stabilizers or preservatives
Endotoxin:	≤0.5EU/mg (≤0.0005EU/μg) Determined by LAL assay
Purity:	≥95% Determined by SDS-PAGE
Sterility:	0.2 μm filtration
Production:	Purified from mammalian cell supernatant in an animal-free facility
Aggregation:	<5% Determined by SEC
RRID:	
Molecular Weight:	150 kDa

Murine Pathogen Test Results

Mouse Norovirus: Negative, Mouse Parvovirus: Negative, Mouse Minute Virus: Negative, Mouse Hepatitis Virus: Negative, Reovirus Screen: Negative, Lymphocytic Choriomeningitis virus: Negative, Lactate Dehydrogenase-Elevating Virus: Negative, Mouse Rotavirus: Negative, Theiler's Murine Encephalomyelitis: Negative, Ectromelia/Mousepox Virus: Negative, Hantavirus: Negative, Polyoma Virus: Negative, Mouse Adenovirus: Negative, Sendai Virus: Negative, Mycoplasma Pulmonis: Negative, Pneumonia Virus of Mice: Negative, Mouse Cytomegalovirus: Negative, K Virus: Negative

Description

The EMab-300-CP106 monoclonal antibody is a recombinant, Fc-engineered chimeric version of the original EMab-300 antibody. The variable domain sequences are identical but the constant region sequences have been switched from Rat IgG1, κ to Mouse IgG2a, κ for use in murine models. Species-matched chimeric antibodies exhibit regulated effector functions—including Fc receptor binding and complement activation—and result in less immunogenicity and formation of anti-drug antibodies (ADAs) than xenogenic antibodies in animal models. This antibody has an effector function competent Fc domain allowing for activation of Fcγ receptors (FcγRs) to trigger antibody-dependent cellular cytotoxicity (ADCC), antibody-dependent cellular phagocytosis (ADCP), complement-dependent cytotoxicity (CDC) and opsonization to promote target cell depletion. The mouse IgG2a isotype demonstrates strong effector functions due to potent interaction with mFcγRIV, which is functionally similar to the FcγRIIIa receptor involved in human ADCC. The highly controlled sequence and

lack of genetic drift in recombinant antibodies provide more reliable and reproducible results over hybridoma derived antibodies. The EMab-300 monoclonal antibody reacts with domain I of the mouse epidermal growth factor receptor (EGFR), also known as ERBB, ERBB1, and HER1. EGFR is a transmembrane glycoprotein and a member of the ErbB family of receptor protein tyrosine kinases (RTKs). The extracellular region of EGFR has four domains, wherein domains I and III contain the ligand-binding site. EGFR ligands include EGF, AREG, TGF-α, epiregulin (EREG), epigen, betacellulin, and heparin-binding EGF. Upon ligand binding, EGFR dimerizes, and its activation through the autophosphorylation of its cytoplasmic domain triggers several downstream signaling pathways, including RAS-RAF-MEK-ERK, PI3 kinase-AKT, PLC-γ-PKC, and STATs, which help the cell respond accurately to extracellular signals. EGFR is expressed ubiquitously, and in various tissues, it plays critical roles in the developmental, physiological, and regenerative processes. EGFR's aberrant activation is a common feature of various malignancies. Using monoclonal antibodies to target the EGFR extracellular region has shown promising results in anti-cancer research, and currently approved therapeutic antibodies such as cetuximab, panitumumab, nimotuzumab, and necitumumab bind to EGFR's domain III, which, together with domain I, is well known to facilitate EGF-EGFR binding.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**
It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Protocol Information

Since applications vary, each investigator should use the application references as a guide to help estimate the appropriate dose or concentration. The dose or concentration can be further optimized experimentally in a dose response or titration experiment.

Application References

For a complete list of references, visit https://bioxcell.com/cp106?bxcs=9k1b3a#tab_references or scan the QR code below.

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