# Technical Data Sheet

## RecombiMAb anti-mouse/human EGFR (domain III)

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## 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

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|---|---|
| **Catalog Number:** | **CP107** |
| **Clone:** | **EMab-88-CP107** |
| **Isotype:** | Mouse IgG2a, κ |
| **Recommended Isotype Control(s):** | RecombiMAb mouse IgG2a isotype control, unknown specificity |
| **Recommended Dilution Buffer:** | InVivoPure pH 7.0 Dilution Buffer |
| **Immunogen:** | Human EGFR (ErbB1) |
| **Reported Applications:** | Flow cytometry<br>ELISA<br>For details on *in vivo* applications, please contact technicalservice@bioxcell.com |
| **Formulation:** | PBS, pH 7.0<br>Contains no stabilizers or preservatives |
| **Endotoxin:** | ≤0.5EU/mg (≤0.0005EU/μg)<br>Determined by LAL assay |
| **Purity:** | ≥95%<br>Determined by SDS-PAGE |
| **Sterility:** | 0.2 μm filtration |
| **Production:** | Purified from mammalian cell supernatant in an animal-free facility |
| **Purification:** | Protein G |
| **Aggregation:** | <5%<br>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-88-CP107 monoclonal antibody is a recombinant, Fc-engineered chimeric version of the original EMAb-88 antibody. The variable domain sequences are identical but the constant region sequences have been switched from Mouse IgG1, κ to Mouse IgG2a, κ for use in murine 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-88 monoclonal antibody reacts with domain III of the mouse and human 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 domain III of EGFR, which directly blocks 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/cp107?bxcs=9k1b3a#tab_references or scan the QR code below.

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