# Technical Data Sheet

## RecombiMAb anti-mouse PD-1 (CD279)

**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

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| **Catalog Number:** | **CP094** |
| **Clone:** | **RMP1-14-CP094** |
| **Isotype:** | Mouse IgG2c, κ |
| **Recommended Isotype Control(s):** | InVivoMAb mouse IgG2c isotype control, anti-dengue virus |
| **Recommended Dilution Buffer:** | InVivoPure pH 7.0 Dilution Buffer |
| **Immunogen:** | Syrian Hamster BKH cells transfected with mouse PD-1 cDNA |
| **Reported Applications:** | *in vivo* blocking of PD-1/PD-L signaling*<br>*Reported for the original rat IgG2a RMP1-14 antibody |
| **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 CHO cell supernatant in an animal-free facility |
| **Purification:** | Protein A |
| **Aggregation:** | <5%<br>Determined by SEC |
| **RRID:** | AB_2927529 |
| **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 RMP1-14-CP094 monoclonal antibody is a recombinant, Fc-engineered chimeric version of the original RMP1-14 antibody. The variable domain sequences are identical but the constant region sequences have been switched from Rat IgG2a, κ to Mouse IgG2c, 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. Mouse IgG2c and IgG2a are allelic variants of the same isotype, differing by strain-specific genetics. Mouse strains such as C57Bl/6, C57Bl/10, SJL, and NOD mice possess the Igh1-b allele resulting in only the expression of IgG2c. However, mouse strains such as BALB/c and Swiss Webster mice possess the Igh1-a allele which results in only the expression of IgG2a. It is important to consider matching the Ig-haplotype

of the receiving mice to the isotype of the injected antibody to avoid eliciting undesired immune responses and ensuring better antibody tolerance, pharmacokinetics, and efficacy in chronic in vivo models like PD-1 blockade. RMP1-14-CP094 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 IgG2c 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. RMP1-14-CP094 reacts with mouse Programmed cell death protein 1 (PD-1, CD279) is a type I transmembrane immune checkpoint receptor of the immunoglobulin superfamily expressed primarily on activated T cells, B cells, and some NK cells, where it dampens T cell receptor signaling to maintain peripheral tolerance and prevent autoimmunity through ITIM/ITSM motifs in its cytoplasmic tail that recruit phosphatases and attenuate activation. Its ligands PD-L1 and PD-L2 are expressed on hematopoietic and many non-hematopoietic cells, including tumor cells, allowing cancers to exploit the PD-1 pathway to induce T cell exhaustion, reduce cytokine production, and evade immune destruction within the tumor microenvironment. RMP1-14-CP094 specifically binds an epitope on PD-1, inhibiting its interaction with ligands PD-L1 and PD-L2 to reinvigorate T cell proliferation, cytokine production (e.g., IFN-γ), and anti-tumor responses in syngeneic and genetically engineered mouse tumor models.

## 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/cp094?bxcs=9k1b3a#tab_references or scan the QR code below.

**Bio X Cell, LLC**
https://bioxcell.com
+1-866-787-3444
customerservice@bioxcell.com

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