

# Technical Data Sheet

## InVivoSIM anti-human PD-1 (Nivolumab Biosimilar)



**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:** SIM0003  
**Clone:** Nivolumab  
**Isotype:** Human IgG4  
**Recommended Isotype Control(s):** RecombiMAb human IgG4 (S228P) isotype control, anti-hen egg lysozyme  
**Recommended Dilution Buffer:** InVivoPure pH 7.0 Dilution Buffer  
**Immunogen:** Human PD-1  
**Reported Applications:** Blocking of PD-1/PD-L signaling  
Flow Cytometry  
Immunohistochemistry  
Western Blot  
**Formulation:** PBS, pH 7.0  
Contains no stabilizers or preservatives  
**Endotoxin:** <1EU/mg (<0.001EU/μg)  
Determined by LAL gel clotting assay  
**Purity:** >95%  
Determined by SDS-PAGE  
**Sterility:** 0.2 μm filtration  
**Production:** Purified from cell culture supernatant in an animal-free facility  
**Purification:** Protein A  
**Aggregation:** <5%  
Determined by SEC  
**RRID:** [AB\\_2894724](https://www.ebi.ac.uk/rrid/AB_2894724)  
**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

This non-therapeutic biosimilar antibody uses the same variable regions from the therapeutic antibody Nivolumab making it ideal for research use. This Nivolumab biosimilar reacts with human PD-1 (programmed death-1) also known as CD279. PD-1 is a 50-55 kDa cell surface receptor encoded by the Pdcd1 gene that belongs to the CD28 family of the Ig superfamily. PD-1 is transiently expressed on CD4 and CD8 thymocytes as well as activated T and B lymphocytes and myeloid cells. PD-

1 expression declines after successful elimination of antigen. Additionally, Pdc1 mRNA is expressed in developing B lymphocytes during the pro-B-cell stage. PD-1's structure includes a ITIM (immunoreceptor tyrosine-based inhibitory motif) suggesting that PD-1 negatively regulates TCR signals. PD-1 signals via binding its two ligands, PD-L1 and PD-L2 both members of the B7 family. Upon ligand binding, PD-1 signaling inhibits T-cell activation, leading to reduced proliferation, cytokine production, and T-cell death. Additionally, PD-1 is known to play key roles in peripheral tolerance and prevention of autoimmune disease. Induced PD-L1 expression is common in many tumors including squamous cell carcinoma, colon adenocarcinoma, and breast adenocarcinoma. PD-L1 overexpression results in increased resistance of tumor cells to CD8 T cell mediated lysis. PD-L1 overexpression results in increased resistance of tumor cells to CD8 T cell mediated lysis. In experimental models of melanoma, tumor growth can be transiently arrested via treatment with antibodies which block the interaction between PD-L1 and its receptor PD-1. For these reasons anti-PD-1 mediated immunotherapies are currently being used as cancer treatments. Nivolumab binds to PD-1 on activated immune cells to selectively block the interaction of PD-1 with its ligands.

## 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.

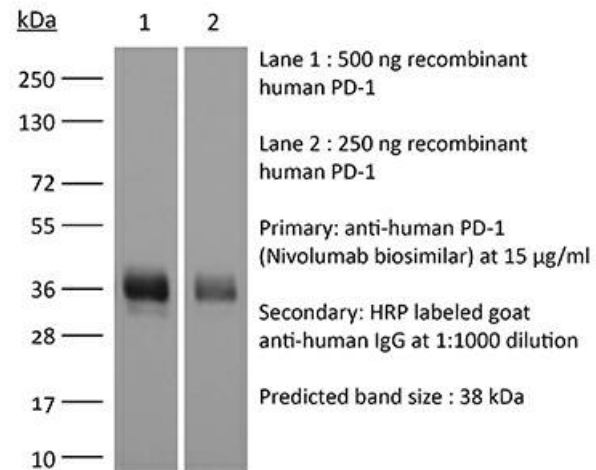
## Application References

For a complete list of references, visit [https://bioxcell.com/catalogsearch/result?q=SIM0003#tab\\_references](https://bioxcell.com/catalogsearch/result?q=SIM0003#tab_references) or scan the QR code below.



## Binding Validation

Validation data shown below confirms that this clone binds to its target antigen. For lot specific binding validation data, e-mail [technicalservice@bioxcell.com](mailto:technicalservice@bioxcell.com).



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