

## Certificate of Analysis

**Order Number:** C9445CI200

**Protein Name:** Anti PD-1 antibody

**Shipping Conditions:** Dry Ice

**Lot Number:** C9445CI200S01/B50021705

For research use only

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**860 Centennial Ave., Piscataway, NJ 08854, USA**

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## Certificate of Analysis

**Order Number:** C9445CI200

**Protein Name:** Anti PD-1 antibody

**Synonyms:** lambrolizumab

**Shipping Conditions:** Dry Ice

**Lot Number:** C9445CI200S01/B50021705

**Codon Optimization:** Yes

**Expression System:** Stable expression cell line

**Purification:** Protein was obtained from supernatant, followed by AC, CEX and SEC

**Package:** 10 mg. 1 ml/tube, 1 tube

**Concentration:** 10.0 mg/ml, determined by UV280 method ( $EC_{280}^{0.1\%}=1.418$ )

**Purity:** 98.54% as estimated by SEC-HPLC

**Endotoxin Level:** <1 EU/mg (LAL Endotoxin Assay Kit, GenScript, Cat.No. L00451-20)

**Potency (EC50):** 0.09719

**Sterility:** Sterilized via a 0.22  $\mu$ m filter and packaged aseptically

**Storage and Handling:** Store at -80°C. Aliquots should be stored at the same temperature after first use to avoid multiple freeze-thaws

**Storage Buffer:** PBS, pH 7.2

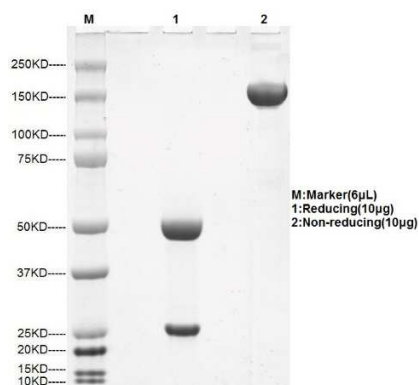
Lot:	Size	Tubes	Conc.	Total protein	Purity	Endotoxin
C9445CI200S01/B50021705	1 ml/tube	1	10.0 mg/ml	10 mg	98.54 %	< 1 EU/mg

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## SDS-PAGE Analysis:



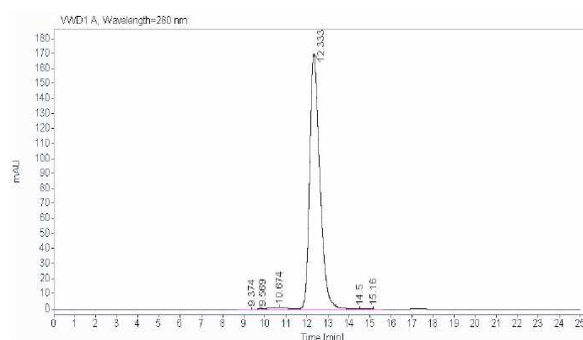
**Fig.1 SDS-PAGE analysis of Anti PD-1 antibody**

Lane M: Protein Marker,( Bio-Rad, Cat.NO. 1610374)

Lane 1: Anti PD-1 antibody (Reducing conditions, 10 μg)

Lane 2: Anti PD-1 antibody (Non-reducing conditions, 10 μg)

## SEC-HPLC analysis:



Signal: VWD1 A, Wavelength=280 nm

RT [min]	Height	Width	Area	Area%	Plates (USP)	Peak Tail Factor	Symmetry
9.37	0.11	0.51	4.323	0.08	3197.4	0.57	5.34
9.57	0.11	0.11	0.767	0.01	1677.7	0.77	2.01
10.67	1.13	0.90	69.430	1.21	712.5	0.96	1.10
12.33	169.46	0.51	5675.835	98.54	3173.4	1.36	0.65
14.50	0.23	0.51	6.900	0.12			0.19
15.16	0.12	0.32	2.955	0.05	2607.0	12.44	0.20

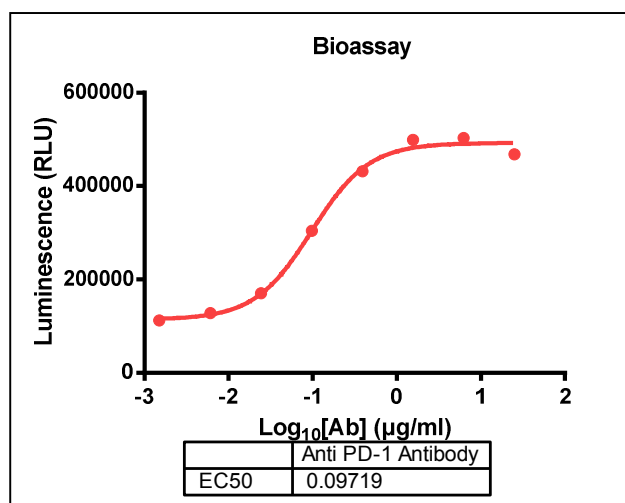
**Fig.2. SEC-HPLC analysis of Anti PD-1 antibody**

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**Potency assay:**



**Fig.3 Potency assay of Anti PD-1 antibody**

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## Packing List

**Protein (Shipping Condition: Dry Ice, Store at -80°C)**

**Protein name:** Anti PD-1 antibody

**Size:** 1 ml/tube

**Concentration:** 10.0 mg/ml

**Purity:** 98.54%

**Potency:** 0.09719

**Buffer:** PBS, pH 7.2

**Endotoxin Level:** <1 EU/mg

**Lot:** C9445CI200S01/B50021705

**Number of vials:** 1

**Total:** 10 mg

**Store at:** - 80°C

**Certified by:**

*Felix. Zhu*

**Date:** 09/20/2017

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