Pembrolizumab (anti-PD-1)

Cat. No.:	HY-P9902A
Target:	PD-1/PD-L1
Pathway:	Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Pembrolizumab (anti-PD-1) is a humanized IgG4 antibody and PD-1 inhibitor. Pembrolizumab produces PD-1 blockade, preventing PD-L1 and PD-L2 from connecting to PD-1. This avoids the uncontrolled regulation of T cells on cells that normally express PD-1[1][2].
In Vitro	Deferoxamine (Df) chelates pembrolizumab and does not block or alter the binding affinity or specificity of pembrolizumab to CD4+ and CD8+ T cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Experiments confirmed that ^{89}Zr-Df-Pembrolizumab has a specific activity of 740 mBq/mg antibody. mBq is the unit of radioactivity, used to measure radioactive decay[2]. Positron emitter ^{89}Zr-labeled deferoxamine (Df)-Pembrolizumab, through PET imaging, its biodistribution has be dynamically tracked. The results shows that pembrolizumab remained stable in the blood circulation and accumulated most in liver and spleen tissues. And it shows similar biodistribution and pharmacokinetics in mice and rat[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2022 Jul 12;13(1):4032.
- bioRxiv. 2023 Nov 13.

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REFERENCES

[1]. Schachter J, et al. Pembrolizumab versus ipilimumab for advanced melanoma: final overall survival results of a multicentre, randomised, open-label phase 3 study (KEYNOTE-006). Lancet. 2017 Aug 16. pii: S0140-6736(17)31601-X.

[2]. England CG, et al. Preclinical Pharmacokinetics and Biodistribution Studies of 89Zr-Labeled Pembrolizumab. J Nucl Med. 2017 Jan;58(1):162-168.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA