

CTLA-4 mAb (9D9), InVivoPure+

Endotoxin level ≤ 1 EU/mg

Description:

The CTLA-4 antibody (clone 9D9) is a monoclonal antibody that specifically targets the mouse CTLA-4 (Cytotoxic T-Lymphocyte Antigen 4), also known as CD152 [1]. CTLA-4 is a 33 kDa cell surface receptor, belonging to the CD28 family of the immunoglobulin superfamily.

CTLA-4 plays a crucial role in immune regulation. 9D9 blocks the binding of murine CTLA-4-Ig to B7-1-positive cells [2]. It has an inhibitory effect and acts as an “off switch” for T cells. It binds to the ligands CD80 and CD86 on antigen-presenting cells (APCs) and thereby inhibits the activation of T cells [1, 2]. The CTLA-4 antibody clone 9D9 has been used to block CTLA-4 and has been shown to enhance T-cell immunity against tumors [3].

This antibody is produced exclusively under serum-free conditions from hybridoma and purified with Protein-A or Protein-G affinity chromatography.

Product-ID:	AK3609P+
Clone:	9D9
Immunogen:	Not known
Host:	Mouse
Clonality:	Monoclonal
Isotype:	Mouse IgG2b
Formulation:	Clear Liquid, PBS, pH 7.4, 0.2 μ m sterile filtered
Concentration:	≥ 1.00 mg/mL
Purity:	≥ 95 % (CGE, reducing conditions) ≤ 5 % aggregates (analytical SEC)
Endotoxin:	≤ 1 EU/mg (LAL test)
Storage:	2 - 8 °C
Recommended Isotype Control:	Mouse IgG2b κ Isotype Control (AK3456P)

The product is for research use only and not for use in diagnostic or therapeutic procedures.

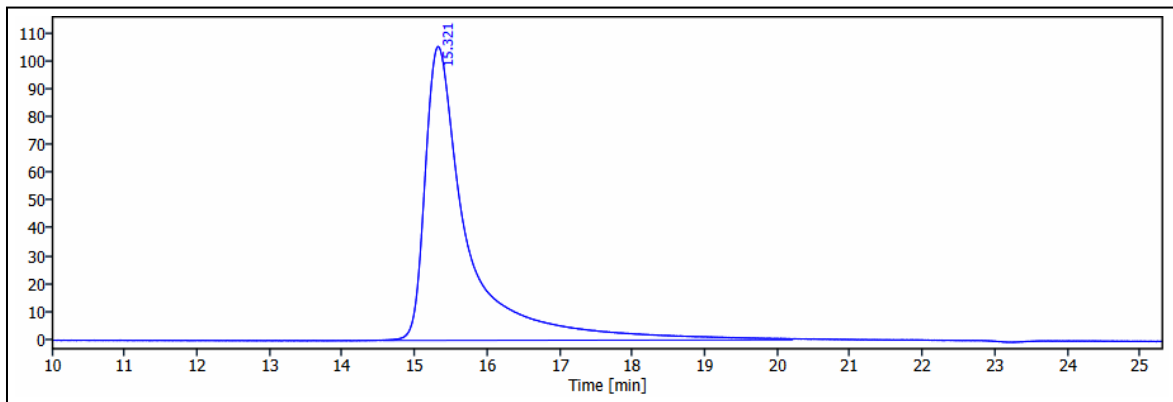
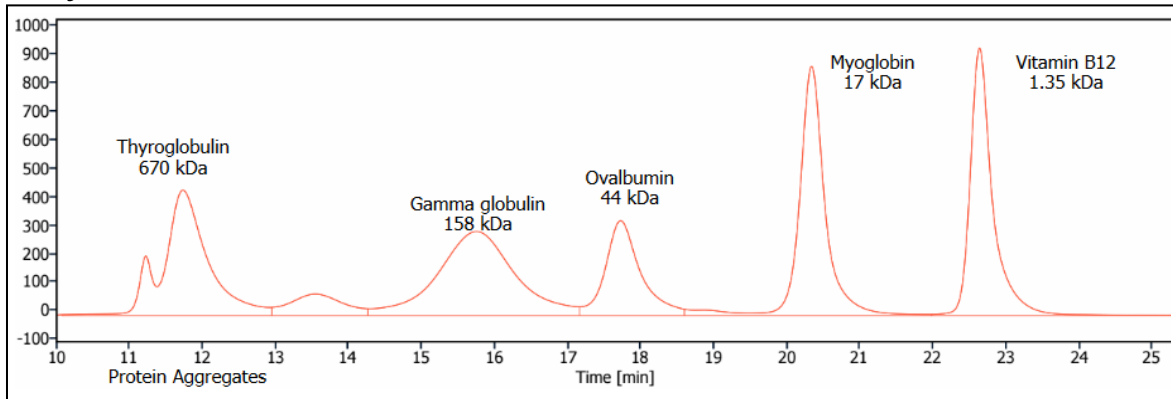
InVivo BioTech Services GmbH is certified to [ISO 9001](#) and [ISO 13485](#).

Literature:

- [1] Simpson TR, Li F, Montalvo-Ortiz W, Sepulveda MA, Bergerhoff K, Arce F, Roddie C, Henry JY, Yagita H, Wolchok JD, Peggs KS, Ravetch JV, Allison JP, Quezada SA. Fc-dependent depletion of tumor-infiltrating regulatory T cells co-defines the efficacy of anti-CTLA-4 therapy against melanoma. *J Exp Med.* 2013 Aug 26;210(9):1695-710. doi: 10.1084/jem.20130579. Epub 2013 Jul 29. PMID: 23897981; PMCID: PMC3754863.
- [2] Selby MJ, Engelhardt JJ, Quigley M, Henning KA, Chen T, Srinivasan M, Korman AJ. Anti-CTLA-4 antibodies of IgG2a isotype enhance antitumor activity through reduction of intratumoral regulatory T cells. *Cancer Immunol Res.* 2013 Jul;1(1):32-42. doi: 10.1158/2326-6066.CIR-13-0013. Epub 2013 Apr 7. PMID: 24777248.
- [3] Quezada SA, Peggs KS, Curran MA, Allison JP. CTLA4 blockade and GM-CSF combination immunotherapy alters the intratumor balance of effector and regulatory T cells. *J Clin Invest.* 2006 Jul;116(7):1935-45. doi: 10.1172/JCI27745. Epub 2006 Jun 15. PMID: 16778987; PMCID: PMC1479425.

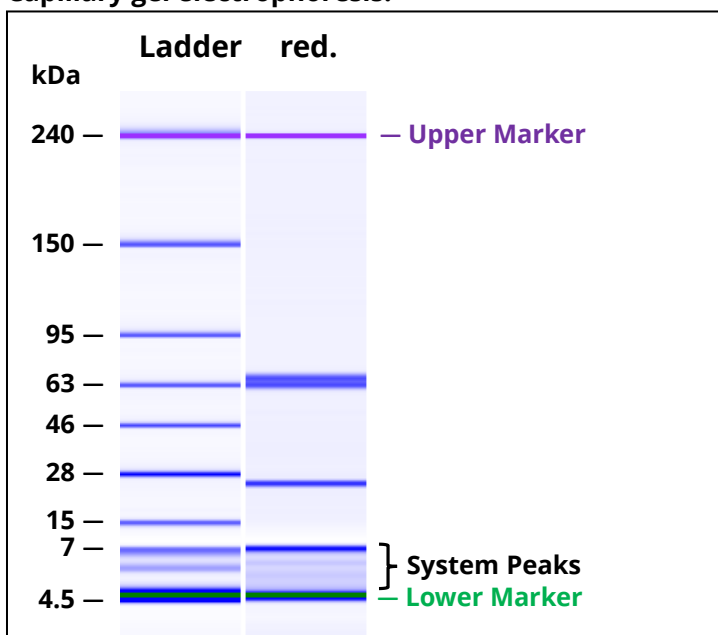
**CTLA-4 mAb (9D9), InVivoPure+
 — Supplementary Data**

Analytical SEC:



Analytical SEC of purified protein (blue) in comparison with gel filtration standard (red).

Capillary gel electrophoresis:



CGE of the purified protein under reducing (red.) conditions.