

Anti-CEA clone 580/F4

Description:

Anti-CEA clone 580/F4 is a mouse monoclonal antibody against human **Carcinoembryonic antigen (CEA)** or **CD66e**, the product of the **CEACAM5** gene (UniProt-ID: [P06731](#)) [1]. CEA is composed of an N-terminal variable (V)-like domain, followed by six constant C2-like domains (N-A1-B1-A2-B2-A3-B3) and is attached to the membrane via a C-terminal GPI-anchor [2]. Due to heavy N-glycosylation, its theoretical molecular weight of 71.3 kDa is increased to approx. 180-200 kDa [3]. CEA is not normally produced in significant quantities after birth but serum levels are elevated in patients with colorectal cancer [4] or malignant breast tumors [5].

The antibody is produced exclusively under serum-free conditions from hybridoma and purified through one-step purification with Protein-G affinity chromatography.

Product-ID:	AK2180
Immunogen	Human recombinant CEA
Host:	Mouse
Clonality:	Monoclonal
Isotype:	IgG1κ
Formulation:	Clear Liquid, PBS, pH 7.4, 0.2 μm sterile filtered
Concentration:	≥ 1 mg/ mL
Purity:	≥ 90% (CGE, reducing conditions) ≤ 10 % aggregates (analytical SEC)
Storage:	2 - 8 °C

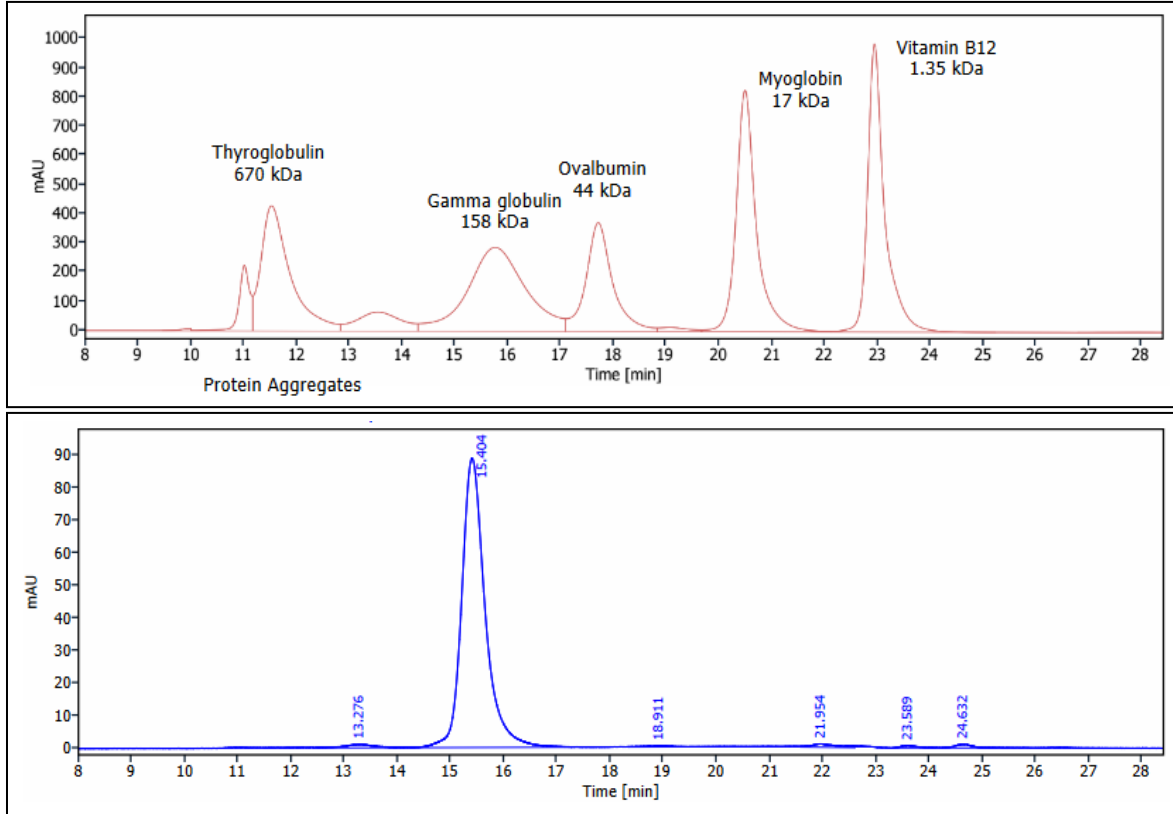
The product is for research use or for further manufacturing only.

Literature:

- [1] K. Kuespert, S. Pils, and C. R. Hauck, "CEACAMs: their role in physiology and pathophysiology," *Curr. Opin. Cell Biol.*, vol. 18, no. 5, pp. 565–571, 2006, doi: 10.1016/j.ceb.2006.08.008.
- [2] N. Beauchemin and A. Arabzadeh, "Carcinoembryonic antigen-related cell adhesion molecules (CEACAMs) in cancer progression and metastasis," *Cancer Metastasis Rev.*, vol. 32, no. 3–4, pp. 643–671, 2013, doi: 10.1007/s10555-013-9444-6.
- [3] K. Hatakeyama, K. Wakabayashi-Nakao, K. Ohshima, N. Sakura, K. Yamaguchi, and T. Mochizuki, "Novel protein isoforms of carcinoembryonic antigen are secreted from pancreatic, gastric and colorectal cancer cells," *BMC Res. Notes*, vol. 6, no. 1, 2013, doi: 10.1186/1756-0500-6-381.
- [4] C. Hall *et al.*, "A review of the role of carcinoembryonic antigen in clinical practice," *Ann. Coloproctol.*, vol. 35, no. 6, pp. 294–305, 2019, doi: 10.3393/ac.2019.11.13.
- [5] Y. Fu and H. Li, "Assessing clinical significance of serum CA15-3 and carcinoembryonic antigen (CEA) levels in breast cancer patients: A meta-analysis," *Med. Sci. Monit.*, vol. 22, pp. 3154–3162, 2016, doi: 10.12659/MSM.896563.

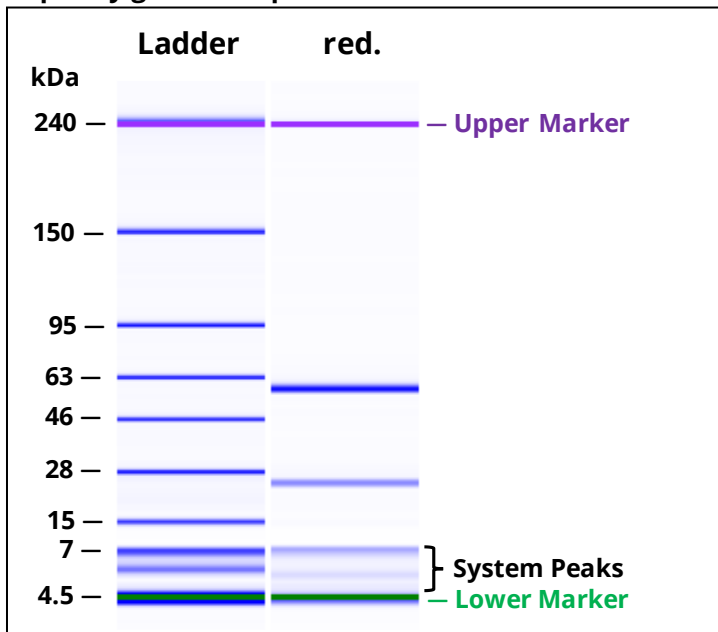
Anti-CEA clone 580/F4 — Supplementary Data

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.