Anti-PCT clone P298-3-1-73-51

Description:

Anti-PCT clone P298-3-1-73-51 is a mouse monoclonal antibody against human **Procalcitonin (PCT)**, a 116-amino acid peptide precursor of the hormone calcitonin, that is used as a biomarker to aid in diagnosis of bacterial infection or sepsis [1]. PCT is produced after cleavage of the 25-amino acid signal peptide from pre-procalcitonin (UniProt entry: P01258), the gene product of the CALC-1 (CALCA) gene. PCT consists of three sections; the amino terminus (57 amino acids), immature calcitonin (33 amino acids) and katacalcin (21 amino acids) [2].

In healthy individuals, transcription and translation of the CALC-1 gene is mostly confined to the thyroid C-cells. However, in response to bacterial infection, mediated by cytokines interleukin-6 (IL-6), tumour necrosis factor-α (TNF-α) and interleukin-1β (IL-β), PCT production is activated in all parenchymal tissues. These tissues lack the ability to cleave PCT to its mature form, calcitonin, leading to accumulation of PCT. In addition, PCT production is attenuated by interferon-γ primarily secreted in response to viral infection. This characteristic makes PCT a specific marker for bacterial infection [3].

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

Product-ID:	AK2668
Immunogen	Human recombinant Procalcitonin
Host:	Mouse
Clonality:	Monoclonal
Isotype:	IgG2b κ
Formulation:	Clear Liquid, PBS, pH 7.4, 0.2 µm sterile filtered
Concentration:	≥ 0.5 mg/ mL
Purity:	≥ 90 % (CGE, reducing conditions), Two bands occur on the order of magnitude of the light chain
	≤ 10 % aggregates (analytical SEC)
Storage:	2 - 8 °C

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

Literature:

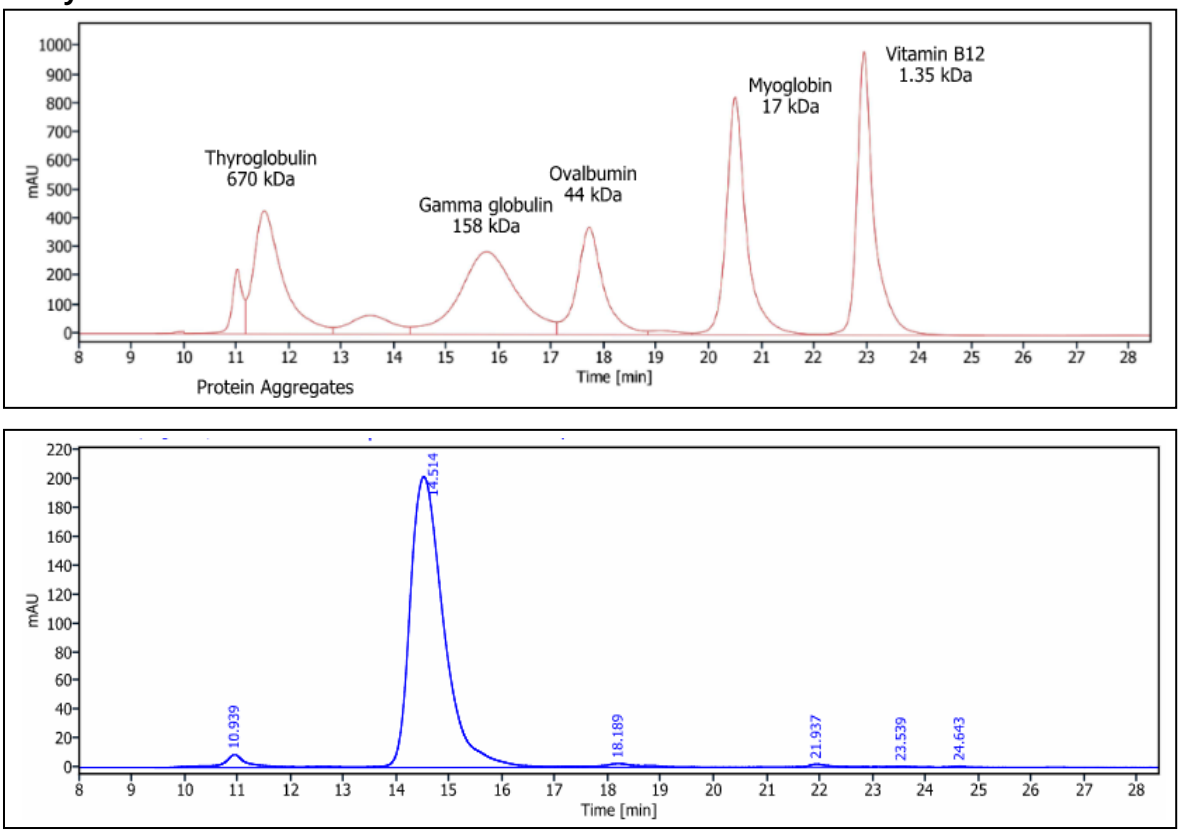
[1] I. Samsudin and S. D. Vasikaran, "Clinical utility and measurement of procalcitonin," *Clin. Biochem. Rev.*, vol. 38, no. 2, pp. 59–68, 2017.

[2] K. L. Becker, R. Snider, and E. S. Nylen, "Procalcitonin in sepsis and systemic inflammation: A harmful biomarker and a therapeutic target," *Br. J. Pharmacol.*, vol. 159, no. 2, pp. 253–264, 2010, doi: 10.1111/j.1476-5381.2009.00433.x.

[3] P. Linscheid *et al.*, "In Vitro and in Vivo Calcitonin I Gene Expression in Parenchymal Cells: A Novel Product of Human Adipose Tissue," *Endocrinology*, vol. 144, no. 12, pp. 5578–5584, 2003, doi: 10.1210/en.2003-0854.

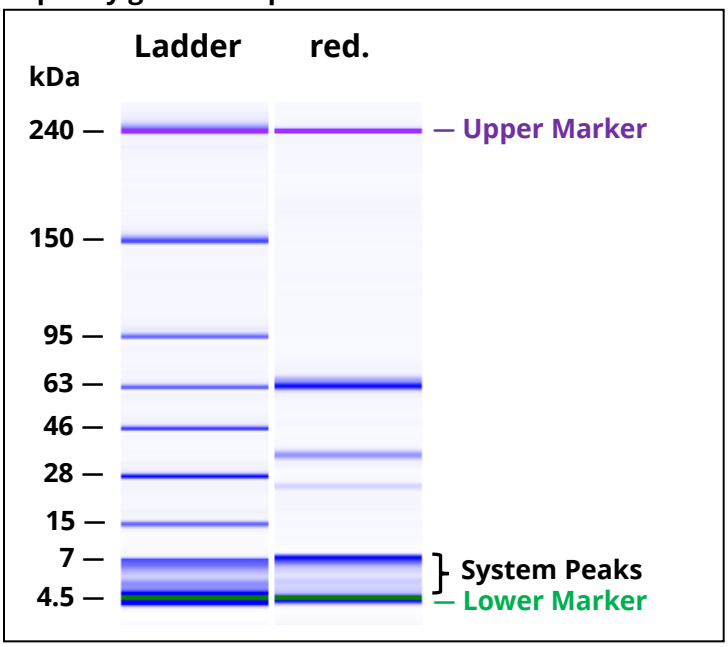
Anti-PCT clone P298-3-1-73-51 — Supplementary Data

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.