Recombinant Human APOC3 His-tag

Catalog Number: 11826-AC

DESCRIPTION

Source	*E. coli*-derived human APOC3 protein Ser21-Ala99, with an N-terminal His6 SUMO tag Accession # P02656.1
N-terminal Sequence Analysis	Met-His
Predicted Molecular Mass	21 kDa

SPECIFICATIONS

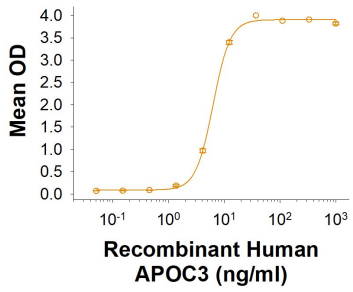
SDS-PAGE	19-23 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human APOC3 His-tag binds to Anti-human APOC3 with an ED_{50} of 1.00-10.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in Tris, NaCl and TCEP with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in water.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

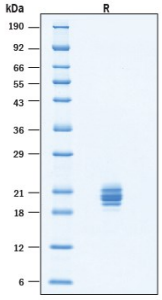
DATA

Binding Activity



Recombinant Human APOC3 His-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. Recombinant Human APOC3 His-tag Protein (Catalog # 11826-AC) binds to Anti-human APOC3 with an ED_{50} of 1.00-10.0 ng/mL.

SDS-Page



Recombinant Human APOC3 His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human APOC3 His-tag Protein (Catalog # 11826-AC) was resolved with SDS-PAGE under reducing (R) condition and visualized by Coomassie® Blue staining, showing bands at 19-23 kDa.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475

Recombinant Human APOC3 His-tag

Catalog Number: 11826-AC

BACKGROUND

Apolipoprotein C-III (ApoC3) is a small exchangeable apolipoprotein that plays a central role in triglyceride-rich lipoprotein metabolism and lipid homeostasis. ApoC3 is encoded by the APOC3 gene and is primarily synthesized in the liver and, to a lesser extent, the intestine, where it associates with very low-density lipoproteins (VLDL), chylomicrons, and high-density lipoproteins (HDL) (1). Under physiological conditions, ApoC3 modulates plasma triglyceride levels by inhibiting lipoprotein lipase (LPL) activity and delaying hepatic clearance of triglyceride-rich particles (2). Human ApoC3 is a ~8.8 kDa protein composed of 79 amino acids and exists in multiple glycoforms depending on the extent of O-linked glycosylation at a single threonine residue (3). These glycoforms differentially influence lipoprotein binding and metabolic function. ApoC3 adopts amphipathic α-helical structures that facilitate reversible association with lipid surfaces and lipoprotein particles (3, 4). Elevated ApoC3 levels impair triglyceride hydrolysis and promote accumulation of atherogenic remnant lipoproteins, contributing to dyslipidemia and cardiovascular disease risk (2, 4). In addition to its canonical role in lipid metabolism, ApoC3 has been implicated in inflammation and vascular biology. It can promote endothelial activation, enhance monocyte adhesion, and contribute to a pro-inflammatory milieu that accelerates atherogenesis (4, 5). ApoC3 also influences hepatic lipid handling and insulin sensitivity, linking it to broader metabolic disorders including type 2 diabetes and nonalcoholic fatty liver disease (5). These diverse activities position ApoC3 as a key regulator of lipid-driven metabolic and cardiovascular processes. Genetic and clinical studies have demonstrated that loss-of-function mutations in APOC3 are associated with reduced plasma triglyceride levels and decreased risk of coronary artery disease, highlighting ApoC3 as a compelling therapeutic target (2, 6). Pharmacological strategies aimed at reducing ApoC3 expression or function, including antisense oligonucleotides and RNA-targeting therapies, have shown significant efficacy in lowering triglycerides in patients with hypertriglyceridemia (6, 7). Recombinant human ApoC3 is therefore an essential research reagent for studies of lipoprotein metabolism, protein–lipid interactions, glycoprotein biology, metabolic disease mechanisms, and therapeutic development targeting triglyceride regulation and cardiovascular risk.

References:

1. Ginsberg, H.N. and Packard, C.J. (2021) Nat. Rev. Cardiol. **18**:569.
2. Stahlman, M. *et al.* (2019) J. Lipid Res. **60**:569.
3. Kozarsky, K.F. *et al.* (2018) Biochim. Biophys. Acta **1863**:1466.
4. Gordts, P.L.S.M. *et al.* (2016) Circulation **133**:2246.
5. Kawakami, A. *et al.* (2022) Front. Cardiovasc. Med. **9**:822345.
6. Jørgensen, A.B. *et al.* (2014) N. Engl. J. Med. **371**:32.
7. Witztum, J.L. *et al.* (2019) N. Engl. J. Med. **380**:23.

Bio-Techne®
Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956
USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449
China | info.cn@bio-techne.com TEL: 400.821.3475