

PRODUCT SPECIFICATION

Recombinant anti-human ApoE4 Nanobodies.

Catalogue number: sdAb-ApoE-Nbx.



Background

Plasma lipoproteins like HDL and chylomicrons play important roles in the human body when it comes to inter-organ transport of cholesterol, cholesteryl(esters), (lyso)phospholipids, fatty acids and other similar compounds. Usually these plasma lipoproteins are ordered aggregates of lipid components and proteins; the latter are referred to as apolipoproteins. Many different such proteins exist: ApoB, ApoC, ApoE, ..., and their size can vary greatly, from 5kDa up to 100 kDa and more. Many of them consist of amphipatic alfa helices with one side of the helix facing the hydrophilic exterior of the lipoprotein particle, whilst the other (hydrophobic) side of the alfa helix faces the interior of the plasma lipoprotein particle.

Apo E is such an apolipoprotein with many different functions which support normal human physiology and transport of lipid energy throughout the body. But there is also a down-side: ApoE4 is associated with high cholesterol, heart disease and stroke as well as Alzheimer's disease. Indeed, individuals with two E4 alleles seem to have a higher propensity to develop AD at a later stage, although this does not apply to all ethnic groups, so caution is warranted. Nevertheless, intense research regarding the biological role of ApoE4 in health and disease is ongoing, including the development of diagnostic tests.

ApoE4 also binds several receptors on the surface of cells, including but not limited to Low Density Lipoprotein receptor (LDLR) and Very Low Density Lipoprotein receptor (VLDLR). These receptors remove plasma lipoproteins from the circulation.

Sources:

www.uniprot.org, www.genecards.org.

Gulliver Biomed's ApoE4 nanobodies bind with very high affinity (low nanomolar to picomolar).

Applications: PD, IP, ELISA. Other applications have not yet been tested. This product is for R&D use only, not for drug, diagnostic, therapeutic, household, or other uses. Not suitable for Western blot.

Source and properties

ApoE4 nanobodies were raised by immunizing a llama with the full length human protein.

Availability: ApoE4 nanobodies come with a COOH-terminal HA epitope tag. Available in 100 µg, 500 µg, 1000 µg quantities. For bulk amounts, please inquire.

Expression host: VHH single domain antibody purified from *E. coli*.

Cross reactivity: Reactivity of this nanobody with ApoE4 from species other than human has not been tested.

Storage buffer: 20 mM Tris-HCl pH 8.0, 150 mM NaCl, 1mM DTT, 60 % glycerol. Store at -20°C. The sample will not freeze. Maintain sample in cold environment during transport to increase longevity.

Stability: Store at -20°C upon arrival. For long term storage, aliquot and store at -80°C. Avoid repeated freeze/thaw cycles.

Product citations:

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