Recombinant Human ACLP His-tag

Catalog Number: 6425-AC

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human ACLP protein Gln26-Phe1158, with a C-terminal 10-His tag Accession # Q8IUX7
N-terminal Sequence Analysis	No results obtained. Gln26 inferred from enzymatic pyroglutamate treatment revealing Thr27.
Predicted Molecular Mass	130 kDa

SPECIFICATIONS

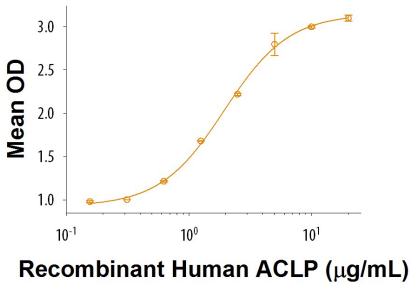
SDS-PAGE	160-180 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human LRP-6 Fc Chimera (Catalog # 1505-LR) is coated at 2 ug/mL, 100 uL/well, Recombinant ACLP binds with an ED_{50} of 1-8 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
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.

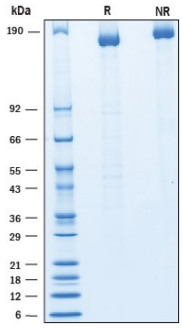
DATA

Binding Activity



When Recombinant Human LRP-6 Fc Chimera (Catalog # 1505-LR) is coated at 2 µg/mL, 100 µL/well, Recombinant Human ACLP (Catalog # 6425-AC) binds with an ED_{50} of 1-8 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human ACLP His-tag (Catalog# 6425-AC) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 160-180 kDa.

BACKGROUND

Aortic carboxypeptidase-like protein (ACLP), also known as adipocyte enhancer binding protein (AEBP1) (1, 2), is a secreted ECM-associated protein expressed primarily by perivascular and vascular cells and is up-regulated in activated vascular cells following vascular injury (3). Pro-ACLP is composed of an N-terminal signal sequence that is cleaved off in the mature form, a Lys/Pro rich motif (aa 47-326), a Glu rich motif (aa 1079-1136), a collagen binding discoidin-like domain (aa 383-540) and a peptidase-like domain (aa 560-942) (4, 5). Mature human ACLP shares 84% aa sequence identity with mouse and rat ACLP. In the liver, ACLP is specifically expressed in hepatic stellate cells (HSCs). Although unrelated to WNT proteins, ACLP can specifically bind to Frizzled-8 and Lrp6 to form a ternary complex to activate the canonical WNT pathway and exacerbates nonalcoholic steatohepatitis (NASH) pathology, indicating that NASH can be treated by targeting ACLP (6). Diseases associated with ACLP-1 include Ehlers-Danlos syndrome classic-like 2 (EDSCLL2) (7) and gastroschisis. Over-expression of ACLP-1 is associated with glioblastoma (8).

References:

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2. Ro, H.S. *et al.* (2001) Gene. **280**:123.
3. Layne, M.D. *et al.* (2002) Cir. Res. **90**:728.
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6. Teratani, T. *et al.* (2018) J Clin Invest. **128**:1581.
7. Blackburn, P.R. *et al.* (2018) Am J Hum Genet. **102**:696.
8. Ladha, J. *et al.* (2012) Mol Cancer Res. **10**:1039.

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