



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human PM20D1 Protein
Catalog Number: hRP-1943
Manufacturer: LD Biopharma, Inc.

Introduction

Human N-fatty-acyl-amino acid synthase/hydrolase PM20D1 gene encodes a bidirectional N-fatty-acyl amino acid synthase/hydrolase that regulates the production of N-fatty-acyl amino acids. These metabolites are endogenous chemical uncouplers of mitochondrial respiration. In an UCP1-independent manner, maybe through interaction with mitochondrial transporters, they promote proton leakage into the mitochondrial matrix. Thereby, this secreted protein may indirectly regulate the bodily dissipation of chemical energy as heat through thermogenic respiration.

Full-length mature protein of human PM20D1 cDNA (26-502aa) was constructed with codon optimization gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in E. coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: PM20D1
Accession Number: NP_689704.4
Species: Human
Size: 50 µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Larrick JW, et al., *Uncoupling Mitochondrial Respiration for Diabetesity*. Rejuvenation Res. Aug;19(4): 337-340. (2016)



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Long JZ, et al., *The Secreted Enzyme PM20D1 Regulates Lipidated Amino Acid Uncouplers of Mitochondria* Cell 166 (2), 424-435 (2016)

Applications

1. May be used for in vitro PM20D1 mediated adipocyte mitochondrial respiratory activities regulation study in N-acyl amino acids metabolizing signaling pathway with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. May be used as enzymatic substrate for various proteases assay.
4. Potential therapeutic protein for regulating adipocytes metabolic pathway in vivo for treatment of diabetes.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFIMGPRSGEHQRASRIPSQFSKEERVAMKEALKGAIQ
IPTVTFSSSEKSNTTALAEFGKYIHKVFPTVVSTSFIQHEVVEEYSHLFTIQGSDPSLQPYLLMA
HFDVVPAPPEEGWEVPPFSGLERDGI IYGRGTLDDKNSVMALLQALELLLIRKYIPRRSFFISLG
HDEESSGTGAQRISALLQSRGVQLAFIVDEGGFILDDEFIPNFKKPIALIAVSEKGS MNLM LQVN
MTSGHSSAPPKETSIGILAAAVSRLEQTPMPIIFGSGTVVTVLQQLANEFPPVNIILSNPWLF
EPLISRFMERNPLTNAIIRT'TTALTIFKAGVKFNVI PPVAQATVNFR IHPGQTVQEVLELTKNI
VADNRVQFHVLSAFDPLPVSPSDDKALGYQLLRQTVQSVFPEVNITAPVTSIGNTDSRFFTNLT
TGIYRFYPIYIQPEDFKRIHGVNEKISVQAYETQVKFIFELIQNADTDQEPVSHLHKL