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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human T-plastin-3 Protein
Catalog Number: hRP-1692
Manufacturer: LD Biopharma, Inc.

Introduction

Plastins are a family of actin-binding proteins that are conserved throughout eukaryote evolution and expressed in most tissues of higher eukaryotes. In humans, two ubiquitous plastin isoforms (L and T) have been identified. Plastin 1 (otherwise known as Fimbrin) is a third distinct plastin isoform which is specifically expressed at high levels in the small intestine. The L isoform is expressed only in hemopoietic cell lineages, while the *T isoform* has been found in all other normal cells of solid tissues that have replicative potential (fibroblasts, endothelial cells, epithelial cells, melanocytes, etc.). The C-terminal 570 amino acids of the T-plastin and L-plastin proteins are 83% identical. It contains a potential calcium-binding site near the N terminus. Alternate splicing results in multiple transcript variants.

Full-length human T-plastin-3 cDNA (629 aa, T-isoform, derived from BC039049) was constructed by full-length gene synthesis with codon optimization 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: T-plastin-3 (PLS3; BMND18)
Accession Number: NP_005023
Species: Human
Size: 50 µg / Vial
Composition: 0.5 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

van Dijk FS, et al., *PLS3 mutations in X-linked osteoporosis with fractures*. N. Engl. J.



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Med. 369 (16), 1529-1536 (2013)

Szkandera J, et al., *A common gene variant in PLS3 predicts colon cancer recurrence in women.* Tumour Biol. 34 (4), 2183-2188 (2013)

Yokobori T, et al., *Plastin3 is a novel marker for circulating tumor cells undergoing the epithelial-mesenchymal transition and is associated with colorectal cancer prognosis.* Cancer Res. 73 (7), 2059-2069 (2013)

Michel, L., et al., *Use of PLS3, Twist, CD158k/KIR3DL2, and NKp46 gene expression combination for reliable Sezary syndrome diagnosis.* Blood 121 (8), 1477-1478 (2013)

Applications

1. May be used for in vitro T-plastin-3 protein mediated actin polymerization regulations study for various cells, such as regulating bone development with “ProFecin” based intracellular delivery of this protein.
2. May be used for T-plastin-3 protein-protein interaction mapping.
3. Potential biomarker protein for various tumors, such as colorectal cancer prognosis.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFDEMATTQISKDELDELKEAFKVDLNSNGFICDYE
LHELFKEANMPLPGYKVREIIQKLMLDGDRNKDGKISFDEFVYIFQEVKSSDI AKTFRKAINRK
EGICALGGTSELSSEGTQHSYSEEEKYAFVNWINKALENDPDCRHVIPMNPNTDDL FKA VGDGI
VLCKMINLSVPDTIDERAINKKKLTPFIIQENLNLALNSASAIGCHVVNIGAEDLRAGKPHLVL
GLLWQIIKIGLFADIELSRNEALAALLRDGETLEELMKLSPEELLLRWANFHLENSGWQKINNF
SADIKDSKAYFHLLNQIAPKGQKEGEPRIDINMSGFNETDDLKRAESMLQQADKLGCRQFVTPA
DVVSGNPKLNLA FVANL FNKYPALTKPENQDIDWTLLEGETREERTFRNWMNSLGVNPHVNHL Y
ADLQDALVILQLYERIKVPVDWSKV NKPYPKLGANMKKLENCNYAVELGKHPAKFSLVGI GGQ
DLNDGNQTLTLALVWQLMRRYTLNVLEDLGDGQKANDDIIVNWVNRTLSEAGKSTSISQSFKDKT
ISSSLAVVDLIDAIQPGCINYDLVKSGNLTEDDKHNNAKYAVSMARRIGARVYALPEDLVEVKP
KMVMTVFA CLMGRGMKRV