



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human MAPRE1 Protein
Catalog Number: hRP-1190
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human microtubule-associated protein RP/EB family member 1 (MAPRE1) gene was first identified by its binding to the APC protein which is often mutated in familial and sporadic forms of colorectal cancer. This protein localizes to microtubules, especially the growing ends, in interphase cells. During mitosis, the protein is associated with the centrosomes and spindle microtubules. The protein also associates with components of the dynactin complex and the intermediate chain of cytoplasmic dynein. Because of these associations, it is thought that this protein is involved in the regulation of microtubule structures and chromosome stability. This gene is a member of the RP/EB family. Recent data indicated that by monitoring blood level of MAPRE1, LRG1 and IGFBP2 proteins, those markers provide a sensitive assay for early stage of colorectal cancer diagnosis.

Full-length mature form of human MAPRE1 cDNA (268 aa) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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: MAPRE1 (EB1)
Accession Number: NP_036457.1
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, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Wang,L.J.,et al., *Interactome-wide analysis identifies end-binding protein 1 as a crucial component for the speck-like particle formation of activated absence in melanoma 2 (AIM2) inflammasomes*. Mol. Cell Proteomics 11 (11), 1230-1244 (2012)

Pfister,A.S., et al., *Amer2 protein interacts with EB1 protein and adenomatous polyposis coli (APC) and controls microtubule stability and cell migration*. J. Biol. Chem. 287 (42), 35333-35340 (2012)

Jon J.Ladd, et al., *Increased plasm level of the APC-interacting protein MAPRE1, LRG1 and IGFBP2 preceding a diagnostic of colorectal. cancer in Women*. Cancer Prev Res. 5; 655-664. (2012).

Applications

1. May be used for in vitro MAPRE1 protein mediated APC pathway activities regulation study with “ProFectin” based intracellular delivery of this protein.
2. May be used for MAPRE1 protein – protein interaction assay.
3. May be used as enzymatic substrate for various proteases.
4. Potential diagnostic biomarker protein for colorectal cancers when combined with LRG1 and IGFBP2 markers.
5. May be used for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGFAVNVYSTSVTSDNLSRHDMWLAWINESLQLNLTKIE
QLCSGAAYCQFMDMLFPGSIALKKVKFQAKLEHEYIQNFKILQAGFKRMGVDKIIPVDKLVK GK
FQDNFEFVQWFKKFFDANYDGKDYDPVAARQGQETAVAPSLVAPALNPKPKPLTSSSAAPQRP I
STQRTAAAPKAGPGVVRKNPGVNGDDEAAELMQQVNVLKLTVEDLEKERDFYFGKLRNIELIC
QENEGENDPVLQRIVDILYATDEGFVIPDEGGPQEEQEEY