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 CHRNA1 Protein
Catalog Number: hRP-0197
Manufacturer: LD Biopharma, Inc.

Introduction

The muscle acetylcholine receptor consists of 5 subunits of 4 different types: 2 alpha isoforms and 1 each of beta, gamma and delta subunits. Human acetylcholine receptor subunit alpha (CHRNA1) encodes an alpha subunit that plays a role in acetlycholine binding/channel gating. This protein has been identified as a major auto-antigen in myasthenia gravis disease.

Human CHRNA1 protein extracellular domain (21-209aa) was constructed with N-terminal His Tag for high level expression. This protein expressed in E. coli as inclusion bodies, refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified.

Gene Symbol:	CHRNA1 (ACHRA; CMS1A; CMS2A; FCCMS; SCCMS)
Accession Number:	NP_000070.1
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 7 days.

Key References

Garchon, H.J., et al. *Involvement of human muscle acetylcholine receptor alpha-subunit gene (CHRNA) in susceptibility to myasthenia gravis*. PNAS. 91. 4668-4672 (1994)

Niarchos A, et al., *Expression of a highly antigenic and native-like folded extracellular*

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domain of the human alpha1 subunit of muscle nicotinic acetylcholine receptor, suitable for use in antigen specific therapies for Myasthenia Gravis. PLoS ONE 8 (12), E84791 (2013)

Chang PM, et al., *High expression of CHRNA1 is associated with reduced survival in early stage lung adenocarcinoma after complete resection.* Ann. Surg. Oncol. 20 (11), 3648-3654 (2013)

Applications

1. May be used as auto-antibodies detection reagent, which will react with sera of Myasthenia Gravis patients.
2. May be used for in vitro CHRNA1 mediated acetlycholine binding / channel gating pathway regulations study by intracellular delivery of this protein with ProRectin reagent.
3. May be used for mapping CHRNA1 protein-protein interaction.
4. As Immunogen for specific antibody development.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MGSSHHHHHHSSGLVPRGSHMGSEHETRLVAKLFKDYSSVVRPVEDHRQVVEVTVGLQLIQLIN
VDEVNQIVTTNVRQNEQWVDYNLKWNPDDYGGVKKIHIPSEKIWRPDLVLYNNADGDFAIVKFT
KVLLQYTGHITWTPPAIFKSYCEIIVTHFPFDEQNCSMKLGTWTYDGSVVAINPESDQPDLSNF
MESGEWVIKESRGWKHSVT