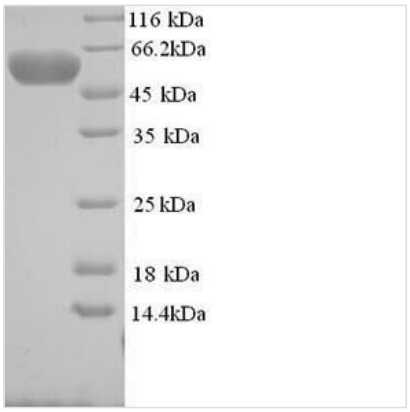
Recombinant Human E3 ubiquitin-protein ligase MYLIP (MYLIP)

Product Code	CSB-YP855506HU
Relevance	E3 ubiquitin-protein ligase that mediates ubiquitination and subsequent proteasomal degradation of myosin regulatory light chain (MRLC), LDLR, VLDLR and LRP8. Activity depends on E2 enzymes of the UBE2D family. Proteasomal degradation of MRLC leads to inhibit neurite outgrowth in presence of NGF by counteracting the stabilization of MRLC by saposin-like protein (CNPY2/MSAP) and reducing CNPY2-stimulated neurite outgrowth. Acts as a sterol-dependent inhibitor of cellular cholesterol uptake by mediating ubiquitination and subsequent degradation of LDLR.
Abbreviation	Recombinant Human MYLIP protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q8WY64
Alias	Inducible degrader of the LDL-receptor ;IdolMyosin regulatory light chain interacting protein ;MIR
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MLCYVTRPDAVLMEVEVEAKANGEDCLNQVCRRLGIIEVDYFGLQFTGSKGES LWLNLRNRISQQMDGLAPYRLKLRVKFFVEPHLILQEQTRHIFFLHIKEALLAGH LLCSPEQAVELSALLAQTKFGDYNQNTAKYNYEELCAKELSSATLNSIVAKHKE LEGTSQASAEYQVLQIVSAMENYGIEWHSVRDSEGQKLLIGVGPEGISICKDDF SPINRIAYPVVQMATQSGKNVYLTVTKESGNSIVLLFKMISTRAASGLYRAITET HAFYRCDTVTSAVMMQYSRDLKGHLASLFLNENINLGKKYVFDIKRTSKEVYD HARRALYNAGVVDLVSRNNQSPSHSPLKSSESSMNCSSCEGLSCQQTRVLQ EKLRKLKEAMLCMVCCEEEINSTFCPCGHTVCCESCAAQLQSCPVCRSRVEH VQHVYLPTHTSLLNLTVI
Research Area	Epigenetics and Nuclear Signaling
Source	Yeast
Target Names	MYLIP
Protein Names	Recommended name: E3 ubiquitin-protein ligase MYLIP EC= 6.3.2.- Alternative name(s): Inducible degrader of the LDL-receptor Short name= Idol Myosin regulatory light chain interacting protein Short name= MIR
Expression Region	1-445aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at

	4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	51.9kDa
Protein Length	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The production of recombinant human E3 ubiquitin-protein ligase MYLIP in yeast involves co-cloning the gene of interest (1-445aa of human MYLIP) into an expression vector with an N-terminal 6xHis-tag gene and transforming it into yeast cells. These cells are cultured to induce protein expression. After sufficient growth is achieved, the cells are lysed to release the recombinant MYLIP protein. The harvested recombinant MYLIP protein is purified from the cell lysate through affinity chromatography. The purity of the MYLIP protein is assessed using SDS-PAGE, greater than 90%.

Human MYLIP, also known as IDOL (Inducible Degrader of the LDL Receptor), plays a crucial role in cholesterol regulation by regulating the LDL receptor (LDLR) pathway [1]. MYLIP is abundantly expressed in almost all human tissues, suggesting additional functions and targets for this protein [2]. The N342S MYLIP polymorphism has been associated with high total cholesterol levels and increased LDL receptor degradation in humans [1]. MYLIP is also involved in the degradation of Very Low-Density Lipoprotein Receptor (VLDLR) and Apolipoprotein E Receptor 2 (ApoER2), indicating its broad role in lipid metabolism and nervous system physiology [3].

References:
[1] D. Weissglas?Volkov, A. Calkin, T. Tusié-Luna, J. Sinsheimer, N. Zelcer, L. Ribaet al., The n342s mylip polymorphism is associated with high total cholesterol and increased ldl receptor degradation in humans, Journal of Clinical Investigation, vol. 121, no. 8, p. 3062-3071, 2011. https://doi.org/10.1172/jci45504
[2] D. Lindholm, B. Bornhäuser, & L. Korhonen, Mylip makes an idol turn into regulation of ldl receptor, Cellular and Molecular Life Sciences, vol. 66, no. 21, p. 3399-3402, 2009. https://doi.org/10.1007/s00018-009-0127-y
[3] K. Hatta, J. Guo, S. Dhingra, K. Singh, M. Huang, R. Weiselet al., Expression of cnpy2 in mouse tissues: quantification and localization, Plos One, vol. 9, no. 11, p. e111370, 2014. https://doi.org/10.1371/journal.pone.0111370

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.