UCHL3 Protein, Rat (His)

Cat. No.:	HY-P76689
Synonyms:	Ubiquitin carboxyl-terminal hydrolase isozyme L3; UCH-L3; Ubiquitin thioesterase L3
Species:	Rat
Source:	E. coli
Accession:	Q91Y78 (E2-A230)
Gene ID:	498560
Molecular Weight:	Approximately 28 kDa

PROPERTIES

AA Sequence	E G Q R W L P L E A N P E V T N Q F L K Q L G L H P N W Q F V D V Y G M E P E L L S M V P R P V C A V L L L F P I T E K Y E V F R T E E E E K I K S Q G Q D V T S S V Y F M K Q T I S N A C G T I G L I H A I A N N K D K M H F E S G S A L K K F L E E S V A M S P E E R A R H L E N Y D A I R V T H E T S A H E G Q T E A P S I D E K V D L H F I A L V H V D G H L Y E L D G R K P F P I N H G K T S D E T L L E D A I E V C K K F M E R D P D E L R F N A I A L S A A
Biological Activity	The specific activity of UCHL3 was 68.654 nmoL/min/mg in DUB assay using ubiquitin-based proluciferin as substrate.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	UCHL3 Protein, a deubiquitinating enzyme (DUB), intricately governs cellular ubiquitin levels by processing ubiquitin precursors and ubiquitinated proteins. Functioning as a thiol protease, UCHL3 selectively recognizes and hydrolyzes peptide bonds at the C-terminal glycine of ubiquitin or NEDD8, displaying a notable 10-fold preference for Arg and Lys at position P3 and a particular affinity for 'Lys-48'-linked ubiquitin chains. In apical compartments, UCHL3 deubiquitinates

ENAC, thereby finely regulating apical membrane recycling. Its influence extends to insulin signaling and adipogenesis, indirectly enhancing the phosphorylation of IGFIR, AKT, and FOXO1. Essential for stress-response in retinal, skeletal muscle, and germ cell maintenance, UCHL3 may also play a role in working memory. Notably, it exhibits the capability to hydrolyze UBB(+1), a mutated form of ubiquitin resistant to proteasomal degradation, emphasizing its significance in the dynamic control of cellular processes and homeostasis.

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