

Ataxin-3 Protein, Human (His)

Cat. No.:	HY-P79456
Synonyms:	Ataxin-3; ATXN3; Machado-Joseph disease protein 1; Spinocerebellar ataxia type 3 protein; ATX3, MJD, MJD1; SCA3
Species:	Human
Source:	E. coli
Accession:	P54252-2 (M1-K361)
Gene ID:	4287
Molecular Weight:	Approximately 43 kDa

PROPERTIES

AA Sequence	<pre> M E S I F H E K Q E G S L C A Q H C L N N L L Q G E Y F S P V E L S S I A H Q L D E E E R M R M A E G G V T S E D Y R T F L Q Q P S G N M D D S G F F S I Q V I S N A L K V W G L E L I L F N S P E Y Q R L R I D P I N E R S F I C N Y K E H W F T V R K L G K Q W F N L N S L L T G P E L I S D T Y L A L F L A Q L Q Q E G Y S I F V V K G D L P D C E A D Q L L Q M I R V Q Q M H R P K L I G E E L A Q L K E Q R V H K T D L E R V L E A N D G S G M L D E D E E D L Q R A L A L S R Q E I D M E D E E A D L R R A I Q L S M Q G S S R N I S Q D M T Q T S G T N L T S E E L R K R R E A Y F E K Q Q Q K Q Q Q Q Q Q Q Q Q Q G D L S G Q S S H P C E R P A T S S G A L G S D L G D A M S E E D M L Q A A V T M S L E T V R N D L K T E G K K </pre>
Biological Activity	Measured in a cell proliferation assay using SH-SY5Y human neuroblastoma cells. The ED ₅₀ this effect is 2.979 ng/ml, corresponding to a specific activity is 3.36×10 ⁵ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. 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

Ataxin-3 protein, a deubiquitinating enzyme, plays a crucial role in maintaining protein homeostasis, regulating transcription, cytoskeleton dynamics, myogenesis, and participating in the degradation of misfolded chaperone substrates. Demonstrating an affinity for long polyubiquitin chains, Ataxin-3 trims them, particularly focusing on chains with more ubiquitin moieties, while exhibiting weak or no activity against shorter chains. It engages in the degradation of misfolded chaperone substrates by interacting with STUB1/CHIP, where it restricts the length of ubiquitin chains attached to STUB1/CHIP substrates, preventing further chain extension. Additionally, Ataxin-3 acts as a histone-binding protein, influencing transcription regulation, and serves as a negative regulator of mTORC1 signaling during amino acid deprivation by mediating the deubiquitination of RHEB. Furthermore, Ataxin-3 contributes to autophagy regulation by deubiquitinating 'Lys-402' of BECN1, leading to BECN1 stabilization.

Caution: Product has not been fully validated for medical applications. For research use only.

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