

Lot # XXXXX

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MATERIAL DATA SHEET**His₆-ATG7 (Apg7) isoform 1, human recombinant**
Cat. # E-318

ATG7, also known as APG7, is a 78 kDa cytosolic ubiquitin-E1-like enzyme that plays a key role in the autophagy pathway of intracellular bulk degradation. It is required for the conjugation of ATG5 to ATG12, the lipidation of ATG8 proteins including GABARAP, GABARAPL1, GABARAPL2 or MAP1LC3A, and the subsequent formation of autophagosomes. ATG7 is required for mitochondrial removal during erythropoiesis ("mitophagy") and for the maintenance of axonal homeostasis. Alternate splicing of human ATG7 generates an isoform that lacks 31 aa at the C-terminus, a region that is required for ATG8 lipidation. Human ATG7 shares 93% aa sequence identity with mouse and rat ATG7. This recombinant protein has an N-terminal 6-His tag.

Product Information

Quantity:	50 µg
Stock:	X mg/ml (X µM) in 50 mM HEPES pH 7.0, 150 mM NaCl, 2 mM TCEP, 10% glycerol
Purity:	> 90% by SDS-PAGE
MW:	80 kDa (monomer size)

Use & Storage

Use:	Typical enzyme concentration to support conjugation <i>in vitro</i> is 50-200 nM depending on conditions.
Storage:	Store at -80°C. Avoid multiple freeze/thaw cycles.

Literature

References:	Ichimura Y., <i>et al.</i> (2000) <u>Nature</u> 408 : 488-492 Komatsue M., <i>et al.</i> (2001) <u>J. Biol. Chem.</u> 276 : 9846-9854 Mizushima N., <i>et al.</i> (1998) <u>J. Biol. Chem.</u> 273 : 33889-33892 Ohsumi Y., <i>et al.</i> (2001) <u>Nat. Rev.</u> 2 : 211-216 Reggiori F. and Klionsky D.J. (2002) <u>Euk. Cell.</u> 1 :11-21 Tanida I., <i>et al.</i> (2001) <u>J. Biol. Chem.</u> 276 : 1701-1706 Tanida I., <i>et al.</i> (2002) <u>J. Biol. Chem.</u> 277 : 13739-13744 Yu L., <i>et al.</i> (2004) <u>Science</u> 302 : 1500-1502 Yuan W., <i>et al.</i> (1999) <u>Mol. Cell. Biol.</u> 10 : 1353-1366
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