LC3-I (human), (recombinant) (His-tag)

Recombinant human LC3-I (His-tag) that serves as a key marker and regulator of autophagy.

The generic term ‘‘autophagy’’ comprises several processes by which the lysosome acquires cytosolic cargo, with three types of autophagy being discerned in the literature: (1) macroautophagy, characterized by the formation of a crescent-shaped structure (the phagophore) that expands to form the double-membrane autophagosome, capable of fusion with the lysosome; (2) microautophagy, in which lysosomes invaginate and directly sequester cytosolic components; and (3) chaperone-mediated autophagy (CMA), which involves translocation of unfolded proteins across the lysosomal membrane. Upregulation of autophagy pathways occurs in response to extra- or intracellular stress and signals such as starvation, growth factor deprivation, ER stress and pathogen infection. Malfunction of these pathways is linked to various human pathologies including cancer, neurodegeneration and infectious diseases. Selective macroautophagy describes the pathway of self-degradation of whole cellular components, protein aggregates or unusually long-lived proteins; in which double-membrane autophagosomes sequester organelles, ubiquitinylated proteins or ubiquitinylated protein aggregates and subsequently fuse with lysosomes for breakdown by resident hydrolases. Formation and expansion of the pre-autophagosomal structure requires the attachment of the ubiquitin-like protein ATG8 via its C-terminal glycine to the amino group of phosphatidylethanolamine (PE), enabling its anchoring to the isolation membrane of the autophagosome. In mammals, ATG8 is represented by at least seven related proteins that fall into two subgroups, LC3- and GABARAP-like proteins. The free and PE linked versions of these proteins are often referred to as LC3-I and LC3-II respectively.

Citations: 3 View Online »

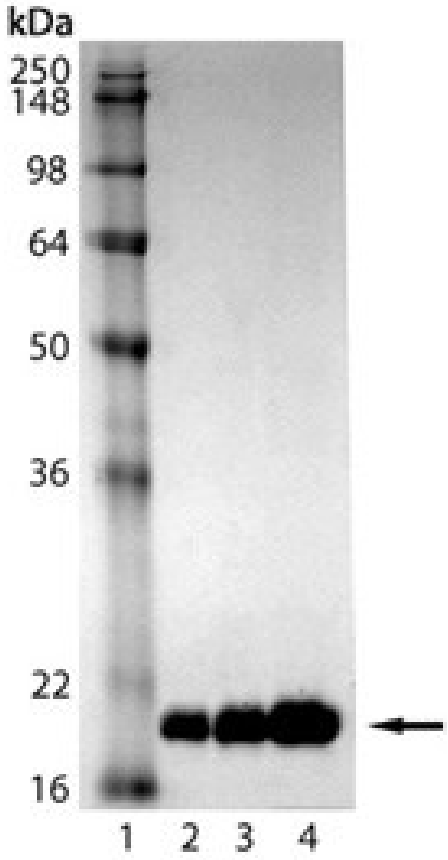
Ordering Information

Order Online »

ADI-APR-100-0050	50µg
ADI-APR-100-0200	200µg

Manuals, SDS & CofA

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SDS-PAGE analysis of LC3-I (human), (recombinant) (Prod. no. ADI-APR-100): Lane 1: MW Marker, Lane 2: 1 µg, Lane 3: 2 µg, Lane 4: 5 µg LC3-I.

Handling & Storage

Long Term Storage	-80°C
Shipping	Dry Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name	Microtubule-associated protein 1A/1B-light chain 3
Application Notes	Western blot control.
Endotoxin Content	<50EU/mg purified protein (LAL test)
Formulation	Liquid. In 25mM TRIS, pH 7.5, containing 250mM sodium chloride, 1.0mM EDTA, and 1.0mM DTT.
MW	~16kDa (predicted), 20kDa (observed)
Purity	≥95% (SDS-PAGE)
Purity Detail	Purified by multi-step chromatography.
Source	Produced in *E. coli*. Human LC3-I is fused at the N-terminus to a His-tag.
UniProt ID	Q9H492 (LC3A), Q9GZQ8 (LC3B), Q9BXW4 (LC3C)

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