



ATG12 Recombinant Monoclonal Antibody

Product Code	CSB-RA002283A0HU
Abbreviation	Ubiquitin-like protein ATG12
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O94817
Immunogen	A synthesized peptide derived from human ATG12
Species Reactivity	Human
Tested Applications	ELISA
Relevance	Ubiquitin-like protein involved in autophagy vesicles formation. Conjugation with ATG5 through a ubiquitin-like conjugating system involving also ATG7 as an E1-like activating enzyme and ATG10 as an E2-like conjugating enzyme, is essential for its function. The ATG12-ATG5 conjugate acts as an E3-like enzyme which is required for lipidation of ATG8 family proteins and their association to the vesicle membranes.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Ubiquitin-like protein ATG12, Autophagy-related protein 12, APG12-like, ATG12, APG12, APG12L
Immunogen Species	Homo sapiens (Human)
Research Area	Cell Biology
Gene Names	ATG12
Clone No.	2F6

Description

The ATG12 recombinant monoclonal antibody is produced using DNA recombinant technology and in vitro genetic manipulation. The process involves immunizing an animal with a synthesized peptide derived from human ATG12, isolating B cells, and selecting positive B cells. These selected B cells undergo screening and single clone identification. The genes encoding the light and heavy chains of the ATG12 antibody are amplified via PCR and inserted into a plasmid vector to create a recombinant vector. This vector is then transfected into a host cell line for antibody expression. The ATG12 recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. It exhibits specificity for human ATG12 protein and finds



application in ELISA.

The ATG12 protein is a key component of the autophagy pathway in cells. In the autophagy pathway, ATG12 forms a conjugate with ATG5 and ATG16L to form the ATG12-ATG5-ATG16L complex, which acts as an E3 ligase, catalyzing the lipidation of LC3. The lipidated form of LC3, called LC3-II, is recruited to the autophagosomal membrane, where it helps to form the autophagosome. The autophagosome then fuses with lysosomes, where the contents are degraded and recycled.