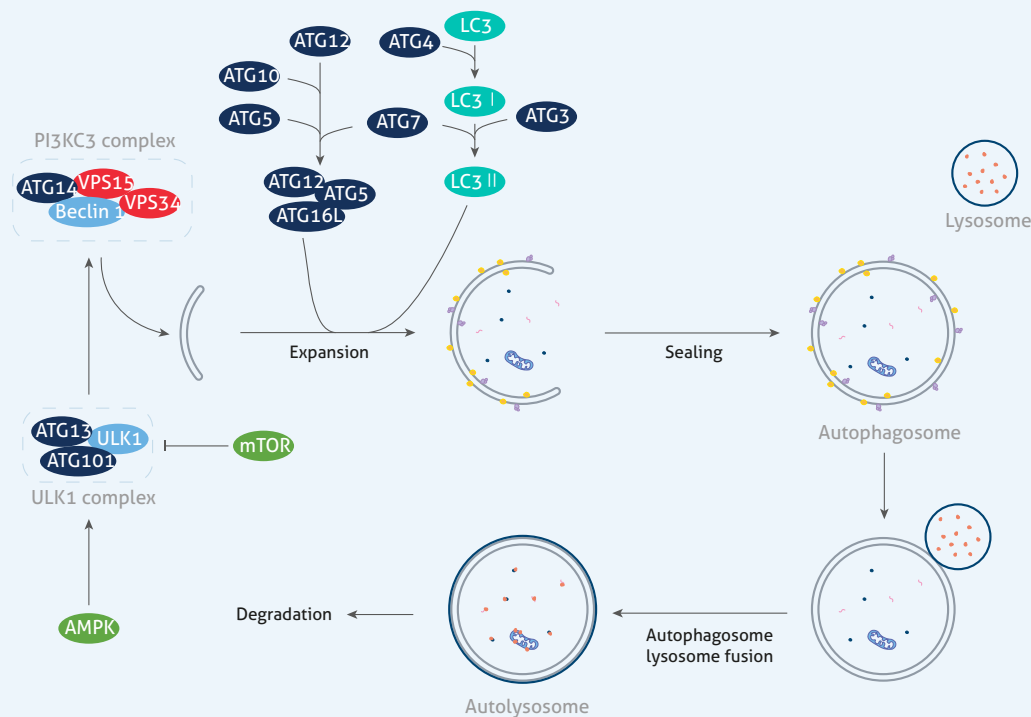
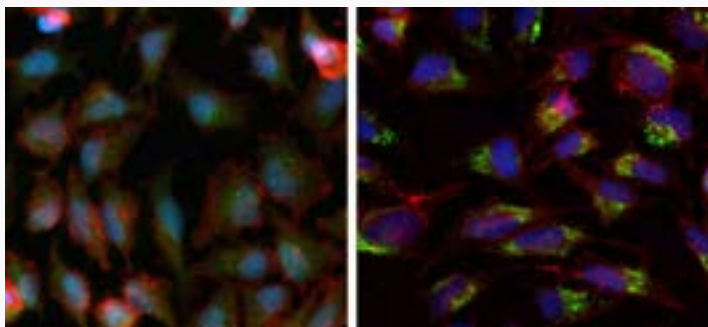


Autophagy Research

Autophagy is a conserved degradation pathway in eukaryotic cells that helps maintain cellular homeostasis by removing damaged organelles and misfolded proteins. It is a highly dynamic process consisting of the following three steps: (1) autophagosome formation, (2) autophagosome-lysosome fusion, and (3) degradation. While autophagy plays a critical role in normal physiological processes including cellular homeostasis, cell growth, development and differentiation, it has also been implicated in the pathogenesis of multiple diseases including neurodegeneration disorders, cardiac myopathy, autoimmune disease and cancer.



LC3 Recombinant Antibody

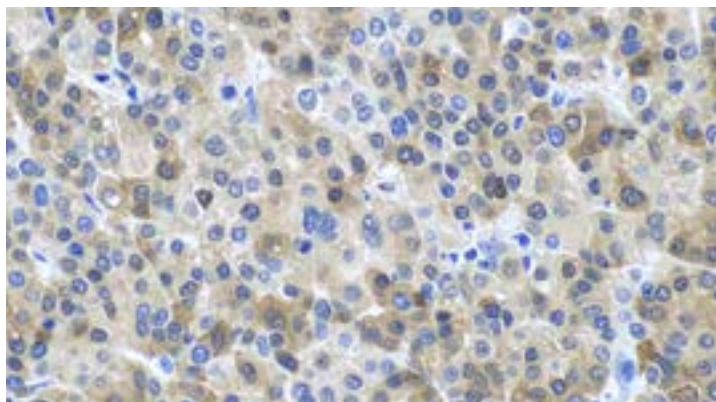


The most widely used approach for measuring autophagic flux is to detect the processing of the autophagosomal membrane protein, LC3 by western blotting. Autophagic flux can also be analyzed using immunofluorescence by quantifying the number of LC3 puncta in the presence and absence of lysosomal inhibitors.

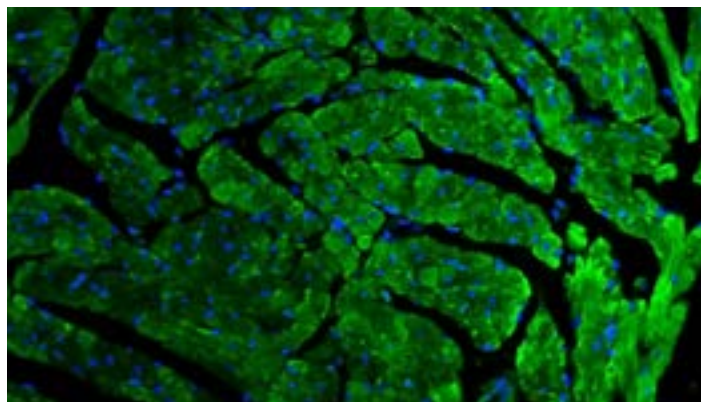
Proteintech's recombinant LC3 Antibody (Cat. No. 81004-1-RR) provides high lot-to-lot consistency and specificity and has been validated for use in multiple applications including western blot, IF and ELISA.

▲ Immunofluorescent analysis of untreated and chloroquine treated HeLa cells using LC3 antibody (81004-1-RR, Clone: 5P12) at dilution of 1:1000 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CoraLite®594 Beta Actin antibody (CL594-66009, Clone: 2D4H5, red)

Selected Unconjugated Primary Antibodies for Studying Autophagy



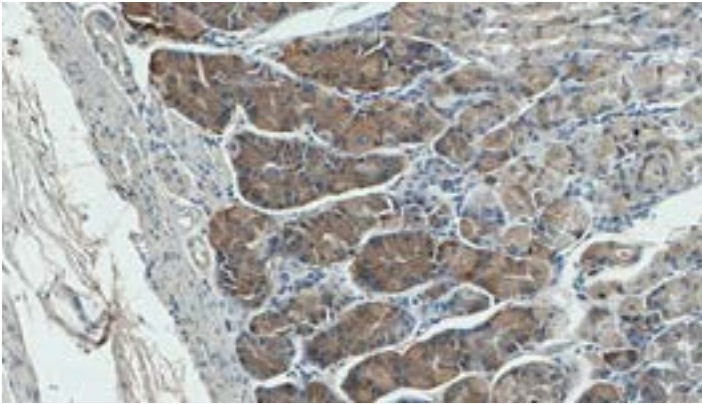
▲ IHC analysis of human liver cancer tissue using **P62,SQSTM1 antibody (18420-1-AP)**, under 40x lens).



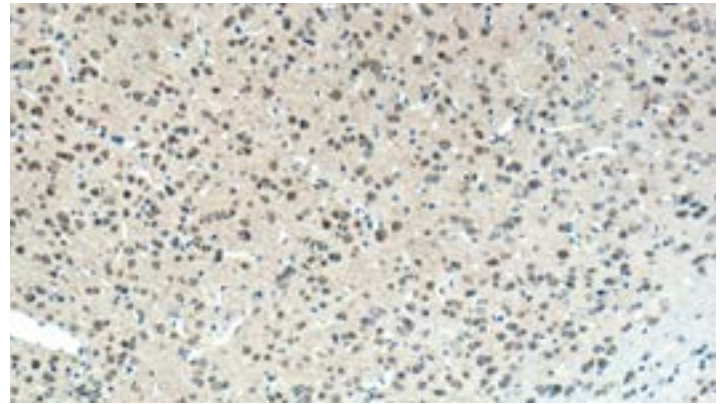
▲ IF analysis of mouse heart tissue using **PARK2/parkin antibody (14060-1-AP)** and **Alexa Fluor 488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L)**.

Catalog No.	Antigen	Clonality	Applications
10088-2-AP	ATG7	Polyclonal	WB, IP, IHC, IF, ELISA
10181-2-AP	ATG5	Polyclonal	WB, IHC, IF, FC, ELISA
10201-2-AP	ubiquitin	Polyclonal	WB, IHC, IF, FC, CoIP, chIP, ELISA
10929-2-AP	AMPK Alpha 1	Polyclonal	WB, IP, IHC, IF, ELISA
11010-1-AP	GABARAPL1-Specific	Polyclonal	WB, IP, IHC, IF, FC, ELISA
11122-1-AP	ATG12	Polyclonal	WB, IP, IHC, IF, CoIP, ELISA
11262-2-AP	ATG3	Polyclonal	WB, IHC, IF, ELISA
11264-1-AP	ATG12	Polyclonal	WB, IHC, IF, ELISA
11306-1-AP	Beclin 1	Polyclonal	WB, IP, IHC, IF, CoIP, ELISA
13762-1-AP	AMBRA1	Polyclonal	WB, IP, IHC, IF, ELISA
14060-1-AP	PARK2/Parkin	Polyclonal	WB, IHC, IF, CoIP, ELISA
11671-1-AP	RAB1A	Polyclonal	WB, IP, IHC, IF, ELISA
14600-1-AP	LC3	Polyclonal	WB, IP, IHC, IF, FC, ELISA
17894-1-AP	VPS15	Polyclonal	WB, IP, IF, CoIP, ELISA
18258-1-AP	ATG13	Polyclonal	WB, IP, IHC, IF, CoIP, ELISA
18420-1-AP	P62,SQSTM1	Polyclonal	WB, IP, IHC, IF, FC, CoIP, ELISA
18721-1-AP	GABARAPL1	Polyclonal	WB, IHC, FC, ELISA
18725-1-AP	LC3B-Specific	Polyclonal	WB, IP, IHC, IF, FC, ELISA
19491-1-AP	ATG14/Barkor (N-terminal)	Polyclonal	WB, IHC, IF, ELISA
20986-1-AP	ULK1	Polyclonal	WB, IHC, IF, ELISA
21269-1-AP	RB1CC1	Polyclonal	WB, ELISA
21444-1-AP	Rubicon	Polyclonal	WB, IHC, IF, ELISA
23274-1-AP	PINK1	Polyclonal	WB, IHC, IF, CoIP, ELISA
26276-1-AP	ATG9A	Polyclonal	WB, IHC, IF, ELISA
28021-1-AP	ATG14/Barkor	Polyclonal	WB, IP, IHC, ELISA
28273-1-AP	mTOR	Polyclonal	WB, IHC, ELISA

Selected Unconjugated Primary Antibodies for Studying Autophagy



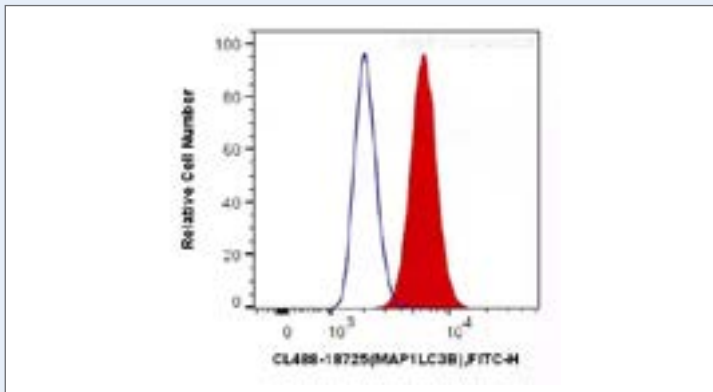
▲ IHC analysis of human stomach tissue using **monoclonal Beclin 1 antibody (66665-1-Ig)**, under 40x lens).



▲ IHC analysis of mouse brain tissue using **monoclonal ATG13 antibody (66708-1-Ig)** under 10x lens).

Catalog No.	Antigen	Clonality	Applications
29006-1-AP	Phospho-ULK1 (Thr468)	Polyclonal	WB, ELISA
29503-1-AP	Phospho-P62,SQSTM1 (Ser349)	Polyclonal	WB, ELISA
65051-1-Ig	CD107a / LAMP1	Monoclonal	WB, IF, FC
65053-1-Ig	CD107b / LAMP2	Monoclonal	IF, FC
66458-1-Ig	GABARAPL1	Monoclonal	WB, IF, ELISA
66536-1-Ig	AMPK Alpha 1	Monoclonal	WB, IHC, FC, ELISA
66665-1-Ig	Beclin 1	Monoclonal	WB, IP, IHC, IF, ELISA
66674-1-Ig	PARK2/Parkin	Monoclonal	WB, IHC, IF, ELISA
66708-1-Ig	ATG13	Monoclonal	WB, IHC, IF, FC, ELISA
66719-1-Ig	STK11/LKB1	Monoclonal	WB, IHC, IF, ELISA
66888-1-Ig	mTOR	Monoclonal	WB, PLA, IP, IHC, IF, ELISA
67096-1-Ig	ATG9A	Monoclonal	WB, IHC, IF, ELISA
67121-1-Ig	PI3 Kinase p110 Beta	Monoclonal	WB, IHC, ELISA
67487-1-Ig	MFN2	Monoclonal	WB, IHC, ELISA
67590-1-Ig	VPS18	Monoclonal	WB, IHC, IF, ELISA
67778-1-Ig	Phospho-mTOR (Ser2448)	Monoclonal	WB, IHC, IF, ELISA
67943-1-Ig	ATG16L1	Monoclonal	WB, IF, ELISA
67780-1-Ig	RAB11B	Monoclonal	WB, ELISA
67902-1-Ig	RAB11A	Monoclonal	WB, ELISA
80218-1-RR	Phospho-ULK1 (Ser556)	Recombinant	WB, FC, ELISA
80294-1-RR	P62,SQSTM1	Recombinant	WB, IHC, IF, ELISA
80596-1-RR	Phospho-mTOR (Ser2448)	Recombinant	WB, ELISA
81004-1-RR	LC3	Recombinant	WB, IF, ELISA

Selected CoraLite® Fluorescent Dye-Conjugated Antibodies for Autophagy Research



1X10⁶ HeLa cells were intracellularly stained with 0.4 ug CoraLite®488 Anti-Human LC3B-specific antibody (CL488-18725) (red), or 0.4 ug control antibody. Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C).

Catalog No.	Antigen	Clonality	Applications
CL488-10181	ATG5	Polyclonal	FC (Intra)
CL488-10201	ubiquitin	Polyclonal	FC (Intra)
CL488-10956	FIS1	Polyclonal	IF
CL488-14060	PARK2/Parkin	Polyclonal	IF
CL488-14600	LC3	Polyclonal	FC (Intra)
CL488-15903	RAB11A/B	Polyclonal	IF
CL488-16004	NBR1	Polyclonal	IF, FC (Intra)
CL488-18725	LC3B-Specific	Polyclonal	FC (Intra)
CL488-20584	PI3 Kinase p110 Beta	Polyclonal	IF, FC (Intra)
CL488-21997	CD107a / LAMP1	Polyclonal	FC (Intra)
CL488-66184	P62,SQSTM1	Monoclonal	IF
CL488-66536	AMPK Alpha	Monoclonal	IF
CL488-66708	ATG13	Monoclonal	IF, FC (Intra)
CL488-66719	STK11/LKB1	Monoclonal	IF, FC (Intra)
CL488-66776	MFN1	Monoclonal	IF, FC (Intra)
CL488-67096	ATG9A	Monoclonal	IF
CL488-67341	ATG7	Monoclonal	IF
CL488-67590	VPS18	Monoclonal	IF
CL488-67778	Phospho-mTOR (Ser2448)	Monoclonal	IF, FC (Intra)
CL488-67902	RAB11A	Monoclonal	FC (Intra)
CL594-14600	LC3	Polyclonal	FC (Intra)
CL650-11010	GABARAPL1-Specific	Polyclonal	FC (Intra)
CL594-66888	mTOR	Monoclonal	IF
CL594-67727	ATG4B	Monoclonal	IF