

Autophagy Reagents

Autophagy is a catabolic process involving the degradation of cellular components. This process is activated during periods of starvation but is sometimes required for cell development and differentiation, as well as immunity. Autophagy was first observed in yeast, as a starvation response where cells use it to generate nutrients from their cytoplasm. In mammalian cells, autophagy has been implicated in various disease states such as heart disease and cancer.

The autophagy pathway is regulated by the kinase mTOR, with activated mTOR suppressing autophagy and negative regulation of mTOR promoting it. Autophagy is linked to apoptosis and the two processes can be triggered by similar upstream processes. However, although excessive autophagy can indeed result in cell death, this process is morphologically distinct from apoptosis.

Autophagy Activators

Item	Description	Application	Effective Concentration	Sizes
J60456	Amiodarone hydrochloride	Inhibits mTOR complex 1	10-50 μ M	1g, 5g, 25g
J63401	Bisindolylmaleimide 1	Protein kinase C inhibitor	0.02-4 μ M	5mg, 25mg
J62473	Rapamycin, 99+%	Inhibits mammalian target of rapamycin (mTOR)	10-500 nM	50mg, 100mg, 200mg

Autophagy Inhibitors

Item	Description	Application	Effective Concentration	Sizes
J62869	L-Asparagine monohydrate, Cell Culture Reagent	Blocks autophagic lysosomal delivery	10 μ M	100g, 500g, 1kg
J61835	Bafilomycin A1	Inhibits V-ATPase	0.1-1 μ M	1mg, 5mg, 10mg
J61188	Leupeptin hemisulfate	Used with pepstatin A and E64d to inhibit lysosomal enzymes	1-100 μ M	25mg, 100mg
J60237	Pepstatin A, 98%	Inhibits lysosomal enzymes with E64d and leupeptin	1-10 μ M	5mg, 25mg
J63983	Wortmannin	Phosphatidylinositol 3-kinase inhibitor	0.1-10 μ M	10mg, 25mg, 50mg

Autophagy Analysis

Item	Description	Application	Sizes
L13159	Acridine Orange	Useful dye for flow cytometry analysis of autophagic cells	5g, 25g

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