ULK

Unc-51 like kinase

The ULK (UNC51-like) enzymes are a family of mammalian kinases that have critical roles in autophagy and development. The ULK family of kinases comprises 5 genes in mammals: ULK1 through ULK4 and STK36. In mammals, ULK1 and ULK2 have been shown to be necessary for the proper autophagy induction and contribute to various developmental, physiological, and pathological processes.

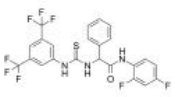
The serine/threonine-protein kinases ULK1 and ULK2 are evolutionarily conserved serine/threonine kinase orthologs of the yeast autophagy related (Atg) family member Atg1, that have redundant roles in the regulation of autophagy. Autophagy targets long-lived proteins or organelles for degradation in lysosomes, and the products of this process are then recycled for other cellular pathways. The canonical ULK/Atg1 complex is composed of ULK1, ATG13, RB1CC1/FIP200/ATG17, and ATG101. It initiates autophagosome formation, at least in part by phosphorylating components of the autophagy-inducing class III phosphatidylinositol 3-kinase complex (e.g., PI3K3C/Vps34, PIK3R4/Vps15, BECN1/Vps30/ATG6, ATG14). ULK/Atg1 also promotes membrane recycling via ATG9. Consistent with the established role of ULK1/2 in autophagy, disrupting ULK1 expression in mice results in a defect in autophagy-mediated clearance of mitochondria during red blood cell maturation, and mice lacking both ULK1 and ULK2 expression die shortly after birth due to a defect in glycogen metabolism, which is similar to other autophagy-defective mice.

ULK Inhibitors & Activators

(Rac)-BL-918

Cat. No.: HY-124729A

(Rac)-BL-918 is the racemate of BL-918. BL-918 is a potent activator of **UNC-51-like kinase 1 (ULK1)**, inducing cytoprotective autophagy for Parkinson's disease treatment.

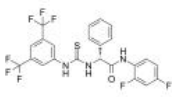


Purity: 98.06%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

BL-918

Cat. No.: HY-124729

BL-918 is an orally active **UNC-51-like kinase 1 (ULK1)** activator with an EC_{50} of 24.14 nM. BL-918 exerts its cytoprotective **autophagic** effect by targeting ULK complex. BL-918 has the potential for Parkinson's disease (PD) treatment.



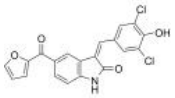
Purity: 98.36%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

GW406108X

(GW108X)

Cat. No.: HY-115570

GW406108X is a specific **Kif15 (Kinesin-12)** inhibitor with an IC_{50} of 0.82 uM in ATPase assays. GW406108X, a potent **autophagy** inhibitor, shows ATP competitive inhibition against **ULK1** with a pIC_{50} of 6.37 (427 nM).

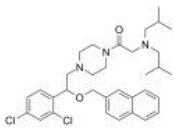


Purity: 96.02%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

LYN-1604

Cat. No.: HY-101923

LYN-1604 is a potent UNC-51-like kinase 1 (**ULK1**) activator (EC_{50}=18.94 nM) for the research of triple negative breast cancer (TNBC).

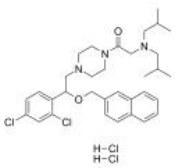


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

LYN-1604 dihydrochloride

Cat. No.: HY-101923B

LYN-1604 dihydrochloride is a potent UNC-51-like kinase 1 (**ULK1**) activator (EC_{50}=18.94 nM) for the research of triple negative breast cancer (TNBC).

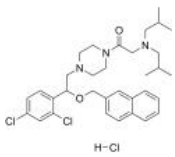


Purity: 98.73%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

LYN-1604 hydrochloride

Cat. No.: HY-101923A

LYN-1604 hydrochloride is a potent UNC-51-like kinase 1 (**ULK1**) activator (EC_{50}=18.94 nM) for the research of triple negative breast cancer (TNBC).

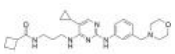


Purity: >98%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

MRT67307

Cat. No.: HY-13018

MRT67307 is a dual inhibitor of the **IKKε** and **TBK-1** with IC_{50}s of 160 and 19 nM, respectively. MRT67307 also inhibits **ULK1** and **ULK2** with IC_{50}s of 45 and 38 nM, respectively. MRT67307 also blocks **autophagy** in cells.

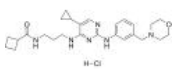


Purity: 99.34%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

MRT67307 hydrochloride

Cat. No.: HY-13018A

MRT67307 hydrochloride is a dual inhibitor of the **IKKε** and **TBK-1** with IC_{50}s of 160 and 19 nM, respectively. MRT67307 hydrochloride also inhibits **ULK1** and **ULK2** with IC_{50}s of 45 and 38 nM, respectively. MRT67307 hydrochloride also blocks **autophagy** in cells.

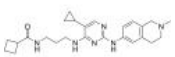


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

MRT68921

Cat. No.: HY-100006

MRT68921 is a potent inhibitor of **ULK1** and **ULK2**, with IC_{50} values of 2.9 nM and 1.1 nM, respectively.

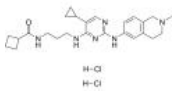


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

MRT68921 dihydrochloride

Cat. No.: HY-100006A

MRT68921 dihydrochloride is a potent inhibitor of **ULK1** and **ULK2**, with IC_{50} values of 2.9 nM and 1.1 nM, respectively.

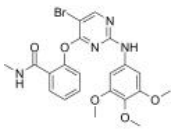


Purity: 99.58%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg, 200 mg

SBI-0206965

Cat. No.: HY-16966

SBI-0206965 is a potent, selective and cell permeable autophagy kinase **ULK1** inhibitor with IC_{50}s of 108 nM for ULK1 kinase and 711 nM for the highly related kinase ULK2.

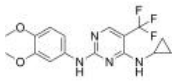


Purity: 99.39%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

SBP-7455

Cat. No.: HY-137742

SBP-7455 is a potent, high affinity and orally active dual **ULK1/ULK2** autophagy inhibitor with IC_{50}s of 13 nM and 476 nM in the ADP-Glo assays, respectively. SBP-7455 potently inhibits **ULK1/2** enzymatic activity and can be used for triple-negative breast cancer (TNBC) research.

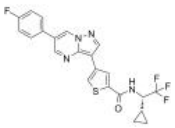


Purity: 98.29%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

ULK-101

Cat. No.: HY-114490

ULK-101 is a potent and selective **ULK1** inhibitor, with IC_{50} values of 1.6 nM and 30 nM for ULK1 and ULK2, respectively. ULK-101 suppresses autophagy and sensitizes cancer cells to nutrient stress.

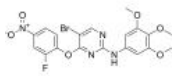


Purity: 99.96%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg

ULK1-IN-2

Cat. No.: HY-143466

ULK1-IN-2 (compound 3s) is a potent **ULK1** inhibitor. ULK1-IN-2 shows highest cytotoxic effect against cancer cell lines, with IC_{50} of 1.94 μM in A549. ULK1-IN-2 can induce apoptosis and simultaneously block autophagy, and can be used to study NSCLC (Non-small cell lung cancer).

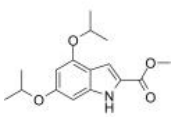


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

XST-14

Cat. No.: HY-137506

XST-14 is a potent, competitive and highly selective **ULK1** inhibitor with an IC_{50} of 26.6 nM. XST-14 induces **autophagy** inhibition by reducing the phosphorylation of the ULK1 downstream substrate.



Purity: 99.69%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg