ULK
Unc-51 like kinase

ULK1, a serine/threonine protein kinase, is an enzyme that in humans is encoded by the ULK1 gene. ULK1 is essential for the initial stages of autophagy. ULK1 is an important protein in autophagy. It is part of the ULK1-complex, which is needed in early steps of autophagosome biogenesis. ULK1 inhibition results in accumulation of stalled early autophagosomal structures, indicating a role for ULK1 in the maturation of autophagosomes as well as initiation.

ULK2 is essential for astrocyte transformation and tumor growth. ULK2 also inhibits the growth of glioma cells, which requires autophagy induction as kinase mutant of ULK2 fails to induce autophagy and inhibit growth. ULK2 and its homologue ULK1 are only down-regulated in all grades of glioma. Thus these results altogether suggest that inhibition of autophagy by ULK1/2 down-regulation is essential for glioma development.
### ULK Inhibitors & Activators

#### LYN-1604
**Cat. No.: HY-101923**

LYN-1604 is a potent UNC-51-like kinase 1 (ULK1) agonist with an EC₅₀ of 18.94 nM.

- **Purity:** >98%
- **Clinical Data:** No Development Reported
- **Size:** 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

#### LYN-1604 hydrochloride
**Cat. No.: HY-101923A**

LYN-1604 hydrochloride is a potent ULK1 activator with an EC₅₀ of 18.94 nM.

- **Purity:** 99.80%
- **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 IKKe and TBK-1 with IC₅₀ values of 160 and 19 nM, respectively. MRT67307 also inhibits ULK1 and ULK2 with IC₅₀ values of 45 and 38 nM, respectively.

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

#### MRT68921
**Cat. No.: HY-100006**

MRT68921 is a potent inhibitor of ULK1 and ULK2 with IC₅₀ values of 2.9 nM and 1.1 nM, respectively.

- **Purity:** >98%
- **Clinical Data:** No Development Reported
- **Size:** 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

#### MRT68921 dihydrochloride
**Cat. No.: HY-100006A**

MRT68921 dihydrochloride is the most potent inhibitor of ULK1 and ULK2, with IC₅₀ values of 2.9 nM and 1.1 nM, respectively.

- **Purity:** 99.38%
- **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 IC₅₀ values of 108 nM for ULK1 kinase and 711 nM for the highly related kinase ULK2.

- **Purity:** 98.76%
- **Clinical Data:** No Development Reported
- **Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

#### ULK-101
**Cat. No.: HY-114490**

ULK-101 is a potent and selective ULK1 inhibitor, with IC₅₀ 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:** 99.98%
- **Clinical Data:** No Development Reported
- **Size:** 10 mM × 1 mL, 5 mg, 10 mg