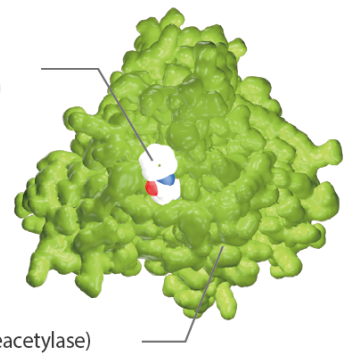
# Myosin




Myosin light chain kinase (MLCK) is a ubiquitous $Ca^{2+}$/calmodulin (CaM)-activated kinase found in smooth, cardiac, and skeletal muscle as well as in mammalian nonmuscle cells.

Myosin light chain kinase (MLCK) is a regulatory protein forsmooth muscle contraction, which acts by phosphorylating 20-kDamyosin light chain (MLC20) to activate the myosin ATPase activity.Myosin light chain kinase (MLCK) of smooth muscle hasbeen puried as an enzyme that phosphorylates 20-kDa lightchain of smoothmuscle myosin (MLC20).

Analysis of the cross talk between Ras-ERK and PI3K-AKT signaling pathways reveals integrin β1, myosin light chain kinase (MLCK) and myosin IIA are required for the activation of PI3K-AKT following inhibition of the Ras-ERK pathway. Integrin β1, MLCK, and myosin IIA are factors in the development of resistance to MEK inhibitors.

Myosin light chain kinase (MLCK) phosphorylates the regulatory light chain (RLC) of myosin producing increases in force development during skeletal muscle contraction.

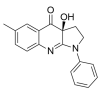
# Myosin Inhibitors & Modulators

## (-)-Blebbistatin

((S)-(-)-Blebbistatin) Cat. No.: HY-13441

**Bioactivity:** (-)-Blebbistatin is an S enantiomer of blebbistatin. Blebbistatin is a potent and selective **myosin II** inhibitor with **$IC_{50}$**s ranging from 0.5 to 5 μM.

**Purity:** 99.42%
**Clinical Data:** No Development Reported
**Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg



## ATM-3507

Cat. No.: HY-100948

**Bioactivity:** ATM-3507 is a potent **tropomyosin** inhibitor with **$IC_{50}$**s from 3.83-6.84 μM in human melanoma cell lines.

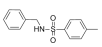
**Purity:** >98%
**Clinical Data:** No Development Reported
**Size:** 250 mg, 500 mg

## BTS

(N-Benzyl-p-toluenesulfonamide; N-Tosylbenzylamine) Cat. No.: HY-16690

**Bioactivity:** BTS is a potent inhibitor of Ca2+-stimulated myosin S1 ATPase (IC50 ~ 5 μM) and reversibly blocks the gliding motility.

**Purity:** 99.78%
**Clinical Data:** No Development Reported
**Size:** 10mM x 1mL in DMSO, 500 mg

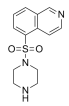


## HA-100

Cat. No.: HY-100984

**Bioactivity:** HA-100 is an inhibitor of cGMP-dependent protein kinase ( **PKG**), cAMP-dependent protein kinase ( **PKA**), Protein kinase C ( **PKC**) and **MLC-kinase** with **$IC_{50}$**s of 4, 8, 12 and 240 μM, respectively.

**Purity:** 99.76%
**Clinical Data:** No Development Reported
**Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

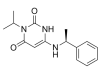


## Mavacamten

(MYK461; SAR439152) Cat. No.: HY-109037

**Bioactivity:** Mavacamten is a modulator of **cardiac myosin**, with **$IC_{50}$s** of 490, 711 nM for bovine cardiac and human cardiac, respectively.

**Purity:** 99.0%
**Clinical Data:** No Development Reported
**Size:** 10mM x 1mL in DMSO, 1 mg, 5 mg

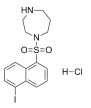


## ML-7 hydrochloride

Cat. No.: HY-15417

**Bioactivity:** ML-7 hydrochloride is a naphthalene sulphonamide derivative, potently inhibits **MLCK** ( **$IC_{50}$**=300 nM) and TRPC6 channel ($IC_{50}$>10 μM).

**Purity:** 98.18%
**Clinical Data:** No Development Reported
**Size:** 10mM x 1mL in DMSO, 10 mg, 50 mg



## MLCK inhibitor peptide 18

Cat. No.: HY-P1029

**Bioactivity:** MLCK inhibitor peptide 18 is a myosin light chain kinase ( **MLCK**) inhibitor with an **$IC_{50}$** of 50 nM, and inhibits **CaM kinase II** only at 4000-fold higher concentrations.

**Purity:** 98.71%
**Clinical Data:** No Development Reported
**Size:** 1 mg, 5 mg, 10 mg, 25 mg

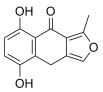
RKKYKYRRK-$NH_2$

## MS-444

(BE-34776) Cat. No.: HY-100685

**Bioactivity:** MS-444 inhibits the activity of purified smooth muscle myosin light chain kinase ( **MLCK**) with an **$IC_{50}$** value of 10 μM.

**Purity:** >98%
**Clinical Data:** No Development Reported
**Size:** 250 mg, 500 mg



## Omecamtiv mecarbil

(CK-1827452) Cat. No.: HY-14233

**Bioactivity:** Omecamtiv mecarbil is a **cardiac myosin** activator.

**Purity:** 99.28%
**Clinical Data:** Phase 3
**Size:** 10mM x 1mL in DMSO, 5 mg, 10 mg, 50 mg, 100 mg