Ribosomal S6 Kinase (RSK)

S6K

Ribosomal S6 Kinase (RSK) is a family of serine/threonine protein kinases involved in the regulation of cell viability. RSK is phosphorylated in response to mitogens by activation of one or more protein kinase cascades. Phosphorylation of S6 in vivo is catalyzed by (at least) two distinct mitogen-activated S6 kinase families distinguishable by size, the 70 kDa and 90 kDa S6 kinases. Both S6 kinases are activated by serine/threonine phosphorylation.

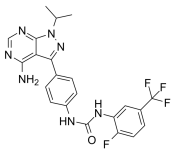
The p90 ribosomal s6 kinase family (1-4) is a group of highly conserved Ser/Thr kinases that act as downstream effectors of the Ras/Raf/MEK/ERK signaling pathway. They regulate diverse cellular processes, such as cell growth, cell motility, cell survival and cell proliferation. The p70 ribosomal protein S6 kinase, an important member of AGC family, is a kind of multifunctional Ser/Thr kinases, which plays an important role in mTOR signaling cascade. The p70 ribosomal protein S6 kinase is closely associated with diverse cellular processes such as protein synthesis, mRNA processing, glucose homeostasis, cell growth and apoptosis.

Ribosomal S6 Kinase (RSK) Inhibitors

AD80

Cat. No.: HY-101963

AD80, a multikinase inhibitor, inhibits **RET**, **RAF**,**SRC**and **S6K**, with greatly reduced mTOR activity.

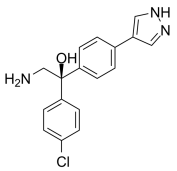


Purity: 99.85%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

AT13148

Cat. No.: HY-16071

AT13148 is an orally active and ATP-competitive, multi-**AGC kinase** inhibitor with IC_{50}s of 38 nM/402 nM/50 nM, 8 nM, 3 nM, and 6 nM/4 nM for Akt1/2/3, p70S6K, PKA, and ROCKI/II, respectively.

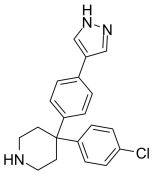


Purity: 99.42%
Clinical Data: Phase 1
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

AT7867

Cat. No.: HY-12059

AT7867 is a potent ATP-competitive inhibitor of **Akt1/Akt2/Akt3** and **p70S6K/PKA** with IC_{50}s of 32 nM/17 nM/47 nM and 85 nM/20 nM, respectively.

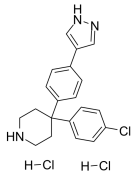


Purity: 99.83%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

AT7867 dihydrochloride

Cat. No.: HY-12059A

AT7867 dihydrochloride is a potent ATP-competitive inhibitor of **Akt1/Akt2/Akt3** and **p70S6K/PKA** with IC_{50}s of 32 nM/17 nM/47 nM and 85 nM/20 nM, respectively.

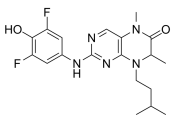


Purity: 99.17%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

BI-D1870

Cat. No.: HY-10510

BI-D1870 is an ATP-competitive, cell permeable and brain penetrated inhibitor of **RSK** isoforms, with IC_{50}s of 31 nM/24 nM/18 nM/15 nM for RSK1/RSK2/RSK3/RSK4, respectively.

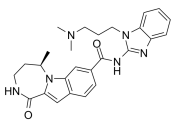


Purity: 99.14%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg

BIX 02565

Cat. No.: HY-16104

BIX 02565 is a potent ribosomal S6 kinase 2 (**RSK2**) inhibitor with IC_{50} of 1.1 nM.

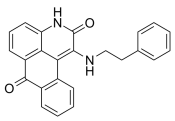


Purity: 99.30%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 mg, 100 mg

BRD7389

Cat. No.: HY-12185

BRD7389 is a specific **RSK** family kinase inhibitor with IC_{50}s of 1.5 μM, 2.4 μM, and 1.2 μM for **RSK1**, **RSK2**, and **RSK3**, respectively. BRD7389 is a small-molecule inducer of insulin expression in pancreatic α-cells.

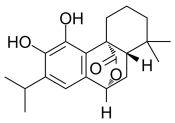


Purity: 98.05%
Clinical Data: No Development Reported
Size: 10 mg

Carnosol

Cat. No.: HY-N0643

Carnosol is a potent Ribosomal S6 Kinase (**RSK2**) inhibitor that could be useful for treating gastric cancer, with an IC_{50} of ~5.5 μM. Carnosol, a **Nrf2** activator, increases the nuclear levels of Nrf2 and can promote the expression of heme oxygenase 1 (HMOX1).

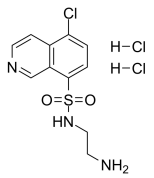


Purity: 99.90%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg

CKI-7

Cat. No.: HY-W011109

CKI-7 is a potent and ATP-competitive **casein kinase 1 (CK1)** inhibitor with an IC_{50} of 6 μM and a K_i of 8.5 μM. CKI-7 is a selective **Cdc7 kinase** inhibitor. CKI-7 also inhibits **SGK**, **ribosomal S6 kinase-1 (S6K1)** and **mitogen- and stress-activated protein kinase-1 (MSK1)**.

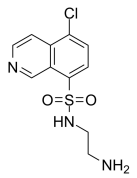


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

CKI-7 free base

Cat. No.: HY-133028

CKI-7 free base is a potent and ATP-competitive **casein kinase 1 (CK1)** inhibitor with an IC_{50} of 6 μM and a K_i of 8.5 μM. CKI-7 free base is a selective **Cdc7 kinase** inhibitor.

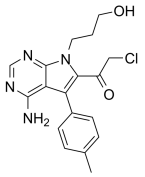


Purity: 99.31%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

CMK

Cat. No.: HY-52101

CMK is a **RSK2 kinase** inhibitor which exhibits similar potency but less chemical stability compared with FMK.



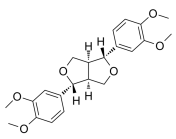
Purity: 99.64%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 25 mg

Eudesmin

((-)-Eudesmin; Eudesmine; (-)-Eudesmine)

Cat. No.: HY-N2357

Eudesmin ((-)-Eudesmin) impairs adipogenic differentiation via inhibition of **S6K1** signaling pathway. Eudesmin possesses diverse therapeutic effects, including anti-tumor, anti-inflammatory, and anti-bacterial activities.

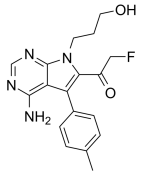


Purity: 99.19%
Clinical Data: No Development Reported
Size: 5 mg

FMK

Cat. No.: HY-52101A

FMK is a an irreversible **RSK2** kinase inhibitor, that covalently modifies the C-terminal kinase domain of RSK.

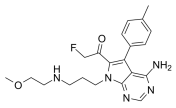


Purity: 99.30%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 25 mg

FMK-MEA

Cat. No.: HY-52101C

FMK-MEA is a potent and selective **p90 Ribosomal S6 Kinase (RSK)** inhibitor.

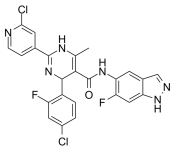


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

GSK-25

Cat. No.: HY-14362

GSK-25 is a potent, selective and orally bioavailable **ROCK1** inhibitor (IC_{50}=7 nM). GSK-25 maintains good selectivity against a panel of 31 kinases (>100 fold), as well as RSK1 and p70S6K (RSK1: IC_{50}=398 nM, p70S6K: IC_{50}=1 μM).

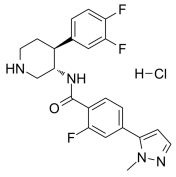


Purity: 99.68%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

Hu7691

Cat. No.: HY-132302

Hu7691 is an orally active, selective **Akt** inhibitor with IC_{50}s of 4.0 nM, 97.5 nM, 28 nM for Akt1, Akt2 and Akt3, respectively. Hu7691 inhibits tumor growth and enables decrease of cutaneous toxicity in mice.

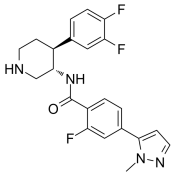


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Hu7691 free base

Cat. No.: HY-132302A

Hu7691 free base is an orally active, selective **Akt** inhibitor with IC_{50}s of 4.0 nM, 97.5 nM, 28 nM for Akt1, Akt2 and Akt3, respectively. Hu7691 free base inhibits tumor growth and enables decrease of cutaneous toxicity in mice.

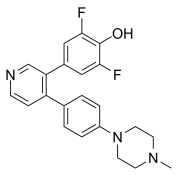


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

LJH685

Cat. No.: HY-19712

LJH685 is a potent, ATP-competitive and selective **RSK** inhibitor, inhibits RSK1, 2, and 3 biochemical activities with IC_{50}s of 6, 5, 4 nM, respectively.

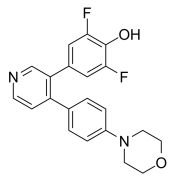


Purity: 99.99%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

LJI308

Cat. No.: HY-19713

LJI308 is a potent pan-**ribosomal S6 kinase (RSK)** inhibitor, with IC_{50}s of 6 nM, 4 nM, and 13 nM for RSK1, RSK2, and RSK3, respectively. LJI308 inhibits the phosphorylation of RSK (T359/S363) and YB-1 (S102) after irradiation, treatment with EGF, and in cells expressing a KRAS mutation.

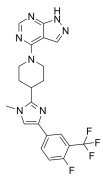


Purity: 99.21%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

LY-2584702 free base

Cat. No.: HY-12493

LY-2584702 free base is a selective ATP competitive inhibitor of **p70S6K** with an IC_{50} of 4 nM. In **S6K1** enzyme assay, the IC_{50} of LY-2584702 is 2 nM.

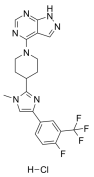


Purity: 99.56%
Clinical Data: Phase 1
Size: 1 mg, 5 mg

LY-2584702 hydrochloride

Cat. No.: HY-12493B

LY-2584702 hydrochloride is a selective ATP competitive inhibitor of **p70S6K** with an IC_{50} of 4 nM. In **S6K1** enzyme assay, the IC_{50} of LY-2584702 is 2 nM.

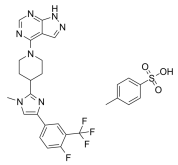


Purity: >98%
Clinical Data: Phase 1
Size: 1 mg, 5 mg

LY-2584702 tosylate salt

Cat. No.: HY-12493A

LY-2584702 tosylate salt is a selective ATP competitive inhibitor of **p70S6K** with an IC_{50} of 4 nM. In **S6K1** enzyme assay, the IC_{50} of LY-2584702 is 2 nM.



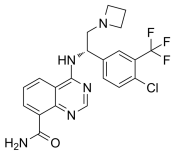
Purity: 98.12%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

M2698

(MSC2363318A)

Cat. No.: HY-100501

M2698 (MSC2363318A) is an orally active, ATP competitive, selective **p70S6K** and **Akt** dual-inhibitor with IC_{50}s of 1 nM for p70S6K, Akt1 and Akt3. M2698 can cross the blood-brain barrier and has anti-cancer activity.

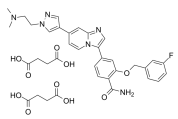


Purity: 99.74%
Clinical Data: No Development Reported
Size: 5 mg

MBM-55S

Cat. No.: HY-101029A

MBM-55S is a potent **NIMA-related kinase 2 (Nek2)** inhibitor with an IC_{50} of 1 nM. MBM-55S shows a 20-fold or greater selectivity in most kinases with the exception of RSK1 (IC_{50}=5.4 nM) and DYRK1a (IC_{50}=6.5 nM).

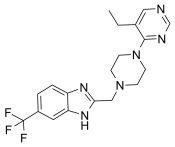


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

PF-4708671

Cat. No.: HY-15773

PF-4708671 is a potent cell-permeable **S6K1** inhibitor with a K_i of 20 nM and IC_{50} of 160 nM.



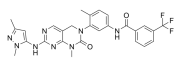
Purity: 99.94%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 25 mg, 50 mg, 100 mg

Pluripotin

(SC1)

Cat. No.: HY-10579

Pluripotin is a dual inhibitor of **ERK1** and **RasGAP** with K_Ds of 98 nM and 212 nM, respectively. Pluripotin also inhibits **RSK1**, **RSK2**, **RSK3**, and **RSK4** with IC_{50}s of 0.5, 2.5, 3.3, and 10.0 μM, respectively.



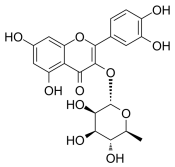
Purity: 98.86%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Quercitrin

(Quercetin 3-rhamnoside)

Cat. No.: HY-N0418

Quercitrin is a natural compound found in Tartary buckwheat with a potential anti-inflammation effect that is used to treat heart and vascular conditions.

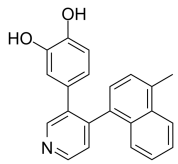


Purity: 99.80%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

RSK-IN-1

Cat. No.: HY-144434

RSK-IN-1 (compound 7d) is a **RSK** inhibitor that inhibits the YB-1 phosphorylation. RSK-IN-1 has anti-tumor effects.

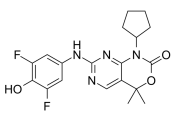


Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

RSK4-IN-1

Cat. No.: HY-132891

RSK4-IN-1 is identified with potent **RSK4** inhibitory activity with an IC_{50} value of 9.5 nM.



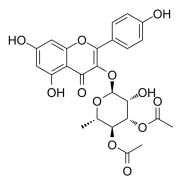
Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

SL 0101-1

(SL0101)

Cat. No.: HY-15237

SL 0101-1 (SL0101), a kaempferol glycoside, isolated from the tropical plant F. refracta, is a cell-permeable, selective, reversible, ATP-competitive **p90 Ribosomal S6 Kinase (RSK)** inhibitor, with an IC_{50} of 89 nM.

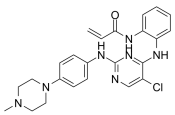


Purity: ≥98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 1 mg, 5 mg

SM1-71

Cat. No.: HY-136848

SM1-71 (compound 5) is a potent **TAK1** inhibitor, with a K_i of 160 nM, it also can covalently inhibit **MKNK2**, **MAP2K1/2/3/4/6/7**, **GAK**, **AAK1**, **BMP2K**, **MAP3K7**, **MAPKAPK5**, **GSK3A/B**, **MAPK1/3**, **SRC**, **YES1**, **FGFR1**, **ZAK (MLTK)**, **MAP3K1**, **LIMK1** and **RSK2**.

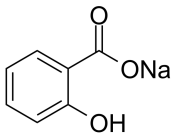


Purity: 96.00%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

Sodium Salicylate (Salicylic acid sodium salt; 2-Hydroxybenzoic acid sodium salt)

Cat. No.: HY-B0167A

Sodium Salicylate (Salicylic acid sodium salt) inhibits cyclo-oxygenase-2 (**COX-2**) activity independently of transcription factor (NF-κB) activation. Sodium Salicylate is also a **S6K** inhibitor.



Purity: 99.88%
Clinical Data: Launched
Size: 10 mM × 1 mL, 500 mg, 10 g, 50 g