cAMP is produced by adenylatecyclase (AC), a 12-transmembrane-spanning enzyme that catalyzes the conversion of ATP to 3',5'-cAMP and pyrophosphate.

In neuronal and neuroendocrine cells, a variety of ligands, such as neurotransmitters and hormones, signal via activation of G protein coupled receptors (GPCRs) coupled to G\(_{\alpha}\). These receptors activate adenylatecyclases (ACs), the family of enzymes that generate cAMP.

cAMP is synthesized by adenylatecyclases (ACs) and degraded by phosphodiesterases (PDEs). Local cAMP signaling is achieved by targeting of signaling components to subcellular compartments and assembly of signaling complexes. Primary cilia also host several cAMP-signaling components: the somatostatin 3 receptor (SSTR3), various adenylatecyclases (AC3, AC4, AC6, AC8), PKA, and Epac2 (exchange protein directly activated by cAMP).
Adenylate Cyclase Inhibitors & Activators

CB-7921220
Cat. No.: HY-101862
CB-7921220 is an adenylate cyclase inhibitor.

Purity: >98.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg

Forskolin
(Coleonol; Colforsin)
Cat. No.: HY-15371
Forskolin is a potent adenylate cyclase activator, with IC₅₀ and EC₅₀ of 41 nM and 0.5 μM for type I adenyl cyclase, respectively.

Purity: 98.52%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg, 200 mg

LRE1
Cat. No.: HY-100524
LRE1 is a specific and allosteric inhibitor of soluble adenylyl cyclase.

Purity: >98%
Clinical Data: No Development Reported
Size: 5 mg, 10 mg

NB001
(HPTS 09836)
Cat. No.: HY-14425
NB001 (HTS 09836) is an adenylcyclase 1 (AC1) inhibitor which has effect on neural and non-neural pain by modulating AC1 activity.

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

NKH477
(Colforsin dapropate hydrochloride)
Cat. No.: HY-103193
NKH477 (Colforsin dapropate hydrochloride) is a novel water-soluble forskolin derivative that improves cardiac failure mainly through its beneficial effects on diastolic cardiac function.

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

Small Cardioactive Peptide B SCPB
Cat. No.: HY-P1495
Small Cardioactive Peptide B (SCP₂), a neurally active peptide, stimulates adenylate cyclase activity in particulate fractions of both heart and gill tissues with EC₅₀ of 0.1 and 1.0 μM, respectively.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg

SQ22536
Cat. No.: HY-100396
SQ22536 is an effective adenylate cyclase (AC) inhibitor.

Purity: 99.65%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg, 200 mg

ST034307
Cat. No.: HY-101279
ST034307 is a potent and selective adenylyl cyclase inhibitor, with IC₅₀ of 2.3 μM.

Purity: 98.11%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

TIP 39, Tuberoinfundibular Neuropeptide
Cat. No.: HY-P1852
TIP 39, Tuberoinfundibular Neuropeptide is a neuropeptide and parathyroid hormone 2 receptor (PTH2R) agonist. TIP 39 is highly conserved among species. TIP39 from all species activates adenylyl cyclase and elevates intracellular calcium levels through parathyroid hormone 2 receptor (PTH2R).

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

α-Melanocyte-Stimulating Hormone (MSH), amide
Cat. No.: HY-P0252
α-Melanocyte-Stimulating Hormone (MSH), amide stimulates melanocortin 1 receptor that results in the activation of adenylyl cyclase.

Purity: 98.55%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg, 10 mg, 25 mg

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