CAY10585 is a novel small molecule inhibitor of hypoxia inducible factor 1 (HIF-1), a heterodimeric transcription factor composed of HIF-1α and HIF-1β subunits. Whereas the HIF-1β subunit is constitutively expressed, the HIF-1α subunit is regulated by cellular oxygen levels: under normoxic conditions HIF-1α is targeted for destruction by the ubiquitin-proteasome system, whereas under hypoxic conditions HIF-1α accumulates and dimerizes with HIF-1β to promote the transcription of a number of genes involved in angiogenesis, glycolysis, growth factor signaling, tumor invasion, and metastasis. CAY10585 blocks HIF-1 accumulation and prevents HIF-1 transcriptional activity (IC₅₀ values of 2.6 and 0.7 µM in Hep3B and AGS cell reporter assays, respectively; Lee et al.).

**Product Description**

CAY10585

**Chemical Name:** 4-hydroxy-3-[[2-(4-tricyclo[3.3.1.13,7]dec-1-ylphenoxy)acetyl]amino]-benzoic acid, methyl ester

**Molecular Name:** Hypoxia inducible factor-1α inhibitor

**CAS Number:** 934593-90-5

**Chemical Formula:** C₂₆H₂₉NO₅

**Molecular Weight:** 435.5 g/mol

**Purity:** ≥ 97%

**Chemical Name:** 4-hydroxy-3-[[2-(4-tricyclo[3.3.1.13,7]dec-1-ylphenoxy)acetyl]amino]-benzoic acid, methyl ester

**Structure:**

![Chemical Structure](image)

**Physical Appearance:** A crystalline solid

**Storage:** Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.

**Solubility:**

- DMSO ≤ 20 mM

For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 230 µL of fresh DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

DIFFERENTIATION
· Inhibits BMP9- and HIF-1-induced osteogenic differentiation in mesenchymal stem cells (Hu et al.).
· Rescues cardiomyocyte differentiation in Fgfr1(-/-) mouse embryonic stem cells (Crescini et al.).

References

Related Small Molecules
For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.