Cell Guidance Systems Ltd, Babraham Research Park, Cambridge CB22 3AT, UK

Data Sheet

Research Use Only

Compound Name

U0126

Alternative Names

U-0126, Succinonitrile, 1,4-Diamino-2,3-dicyano-1,4-bis(2-aminophenylthio)-butadiene

Catalog Number

SM106

Activity

U0126 is a selective MAP Kinase inhibitor, displaying a preference for MEK-1 and MEK-2. It is known that U0126 binds to MEK in a noncompetitive manner compared to ATP. Studies suggest that U0126 antagonizes the transcription of AP-1, via the inhibition of MEK. In addition, U0126 has been observed to inhibit promoters containing an AP-1 response element, while in contrast having no effect on promoters that lack an AP-1 response group. U0126 is an activator of PGC-1, mtTFA and Nuclear Respiratory Factor.

Effect

Inhibition of MEK/ERK activity by specific MEK inhibitors PD98059 and U0126 rapidly causes the loss of human embryonic stem cells (hESC) pluripotency, acting as a promoter of hESC differentiation. U0126 is also useful in neuronal studies in mice since it displays inhibitory effects against oxidative stress.

Purity

>99%

CAS

109511-58-2

Formula

$C_{18}H_{16}N_6S_2$

Molecular Weight

380.49

Solubility

DMSO

Stability

Stable at -20 ^{o}C. Keep away from direct sunlight.

References

1. Duncia, JV., et al. 1998. Bioorg Med Chem Lett. 8(20): 2839-2844. PMID: 9873633
2. Satoh, T., et al. 2000. Neurosci Lett. 288(2): 163-166. PMID: 10876086
3. Zhang, XZ. 2010. Reprod Biomed Online. 21(1): 26-36. PMID: 20462797
4. Wu, HM., et al. 2014. J Cell Mol Med. PMID: 24725889