DIF-3

Product Number D 0567
Store at Room Temperature

Cas #: 113411-17-9
Chemical Name: 1-(3-Chloro-2,6-dihydroxy-4-methoxyphenyl)-1-hexanone
Synonym: Differentiation-inducing factor 3

Molecular Weight: 272.7

Differentiating-inducing factor 3 (DIF-3), a natural active metabolite of DIF-1, is a cell cycle inhibitor and anti-leukemic agent. DIFs act across species, including mammalian cells (human leukemia K562 and HeLa cells). DIF-3 is the most potent anti-tumor agent of six DIF analogues tested (DIF-1, DIF-2, 2-MICIF, DMPH, and THPH). DIF-3 inhibits cell cycle by inducing G0/G1 arrest. DIF-3 suppresses cyclin D1 expression at both the mRNA and protein level. The DIF-3 effect on cyclin D1 protein is via accelerated proteolysis mediated by a proteasome (abrogated by ALLN, proteasome inhibitor). DIF-3 activates GSK-3β via dephosphorylation of Ser 9 and phosphorylation of Tyr 216 and causes nuclear translocation. DIF-3 is unique in the activation of GSK-3β without apoptosis induction.

Storage/Stability
Store at room temperature. Light sensitive. Stored under nitrogen.

References