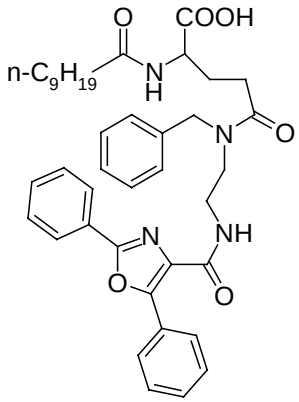
ProductInformation

SC-ααδ9
Product Number **S 2938**
Storage Temperature 2-8 °C

Cas #: 219905-91-6
Synonyms: 4-(Benzyl-(2-[(2, 5-diphenyl-oxazole-4-carbonyl)-amino]-ethyl)-carbamoyl)-2-decanoylaminobutyric acid; SC alpha alpha delta 09



Product Description
Molecular Formula: C_{40} H_{48} N_4 O_6
Molecular Weight: 680.83 (anhydrous)

Supplied as white solid.
Purity >98% by HPLC
Melting point: 100.8-108.2 °C

SC-ααδ9 is a novel anti-proliferative agent that was identified in a targeted array library of protein phosphatase inhibitors modeled after complex natural inhibitors.[1,2] SC-ααδ9 functions as an inhibitor of dual specificity phosphatases. It is also an anti-proliferative agent that induces insulin-like growth factor-1 (IGF-1)-resistant apoptosis and inhibits the growth of tumor cells *in vivo*. The analogs of SC-ααδ9 are potential therapeutic agents for the treatment of growth factor-dependent tumors.[3,4,5]

The dual specificity protein phosphatase family (Cdc25) is a key regulator of transduction, oncogenesis, and cell cycle progression and has been implicated in cancer etiology. Overexpression of Cdc25 was found in 47% of breast cancer patients. It correlates with higher levels of Cdk2 activity and with poor survival prognosis.[6,7] The inhibitory action of SC-ααδ9 involves arrest of Cdc25 –dependent cell cycle progression.[6]

IGF-1 is a mitogen for prostate epithelial cells. In a study of 152 cases of prostate cancer and 153 controls, a strong positive correlation was observed between plasma IGF-1 levels and prostate cancer risk.[5,8] Control of IGF-1 receptor function is one of the main targets for prostate cancer therapy. SC-ααδ9, in *in vitro* studies, selectively inhibited growth of transformed cells and induced apoptosis that was resistant to both an overabundance of IGF-1 and to overexpression of IGF-1 receptor. These functions and qualities make SC-ααδ9 a potential tool for studying growth factor-dependent processes in tumor cell growth and proliferation.

Preparation Instructions
SC-ααδ9 is soluble in DMSO at 16 mg/ml and insoluble in water.

Storage/Stability
Store desiccated at 2-8 °C.

References

1. Wipf, P., et al., Sulfonylated aminothiazoles as new small molecule inhibitors of protein phosphatases. Bioorg. Med. Chem. Lett., **12,** 313-317 (2001).
2. Wipf, P., et al., Synthesis and biological evaluation of a targeted library of protein phosphatase inhibitors. Biotechn. Bioeng., **71**, 58-70 (2000).
3. Pestell, K.E., et al., Small molecule inhibitors of dual specificity protein phosphatases. Oncogene, **19**, 6607-6612 (2000).
4. Ducruet, A.P., et al., Identification of new Cdc25 dual specificity phosphatase inhibitors in a targeted small molecule array. Bioorg. Med. Chem., **8,** 1451-1466 (2000).
5. Vogt, A., et al. *In* vivo antitumor activity and induction of insulin-like growth factor-1-resistant apoptosis by SC-ααδ9. J. Pharmacol. Exp. Ther., **292**, 530-537 (2000).

6. Tamura, K. et al., Dual G1 and G2/M phase inhibition by SC-alpha alpha delta 9, a combinatorially derived Cdc25 phosphatase inhibitor. Oncogene, **18**, 6989-6996 (2000).
7. Cangi, M.G., et al., Role of the Cdc25A phosphatase in human breast cancer. J. Clin. Invest., **106**, 753-761 (2000).
8. Chan, J.M. et al., Plasma insulin-like growth factor-1 and prostate cancer risk: a prospective study. Science, **279**, 563-566 (1998).

AH 9/01