

TAK-778

Catalog No: tcsc0018164



Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg



Specifications

CAS No:

180185-61-9

Formula:

$C_{24}H_{28}NO_7PS$

Pathway:

Others

Target:

Others

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Observed Molecular Weight:

505.52

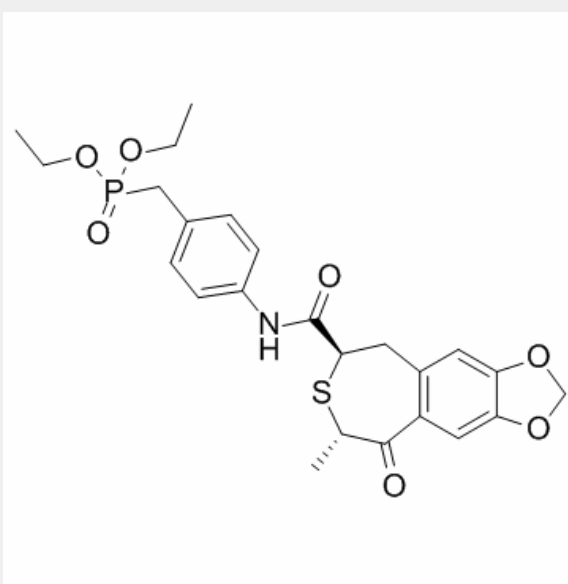
Product Description

TAK-778 is a derivative of ipriflavone and has been shown to induce bone growth in *in vitro* and *in vivo* models.

In Vitro: TAK-778 is a derivative of ipriflavone and has been shown to induce bone growth in *in vitro* and *in vivo* models.

Continuous treatment with TAK-778 (10 μ M) for 1 to 21 days results in an increase in the area of mineralized nodules. TAK-778 at concentrations of 1 μ M and higher significantly stimulates the activity of cellular Alkaline phosphatase (ALP). TAK-778 increases slightly but significantly the DNA content of the cells at the confluence stage. Treatment with TAK-778 also results in dose-dependent increases in the amount of soluble collagen and osteocalcin secreted into culture medium from days 5 to 7. TAK-778 enhances the secretion of both TGF- β and IGF-I at every time point during the 21 days of culture. Treatment of the cells with TAK-778 does not induce ALP activity, but does result in a dose-dependent increase in the saturated cell density. TAK-778 at a concentration of 10 μ M significantly reduces the saturated cell density^[2].

In Vivo: Treatment with a single local application of TAK-778/PLGA-MC (0.2 to 5 mg/site) results in a dose-dependent increase in the radio-opaque area formed in the defect. Histological studies show the defect area is occupied by a bony bridge and the newly-formed radio-opaque area corresponds to a calcified bone containing bone marrow cavities surrounded by thick osteoid seams with cuboidal osteoblasts. There is no significant difference in either of the indices between placebo- or TAK-778/PLGA-MC-treated skulls. Two months after the operation, the TAK-778/PLGA-MC pellets induce radiological osseous union across the defects^[2]. Oral treatment of OVX rats with TAK-778 causes a more pronounced increase in bone mineral density (BMD) of the lumbar vertebrae compare to vehicle controls^[3].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!