

γ-Oryzanol

Catalog No: tcsc7898



Available Sizes

Size: 1g



Specifications

CAS No:

11042-64-1

Formula:

$C_{40}H_{58}O_4$

Pathway:

Epigenetics

Target:

DNA Methyltransferase

Purity / Grade:

>98%

Solubility:

H₂O :

Observed Molecular Weight:

602.89

Product Description

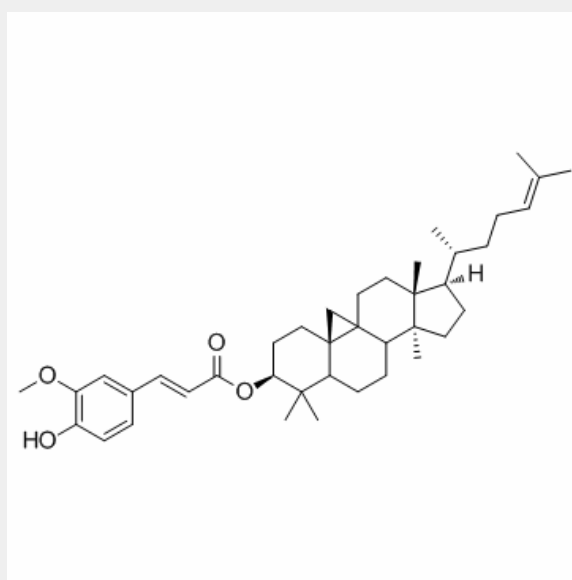
γ-Oryzanol is a potent **DNA methyltransferases (DNMTs)** inhibitor in the striatum of mice. γ-Oryzanol significantly inhibits the activities of **DNMT1** (**IC₅₀**=3.2 μM), **DNMT3a** (**IC₅₀**=22.3 μM).

IC₅₀ & Target: IC₅₀: 3.2 μM (DNMT1), 22.3 μM (DNMT3a)^[1]

In Vitro: γ-Oryzanol significantly inhibits the activities of DNMT1 (**IC₅₀**=3.2 μM), DNMT 3a (**IC₅₀**=22.3 μM) and DNMT 3b (maximum inhibition 57%). In contrast, the inhibitory activity of Ferulic acid, a metabolite of γ-Oryzanol, is much lower than that of γ-Oryzanol. Furthermore, γ-Oryzanol acts as a partial antagonist against ERRγ, which primarily serves as a positive regulator for DNMT1

production, and consequently decreased the activity of DNMT1^[1].

In Vivo: The brown rice-specific bioactive component γ -Oryzanol, a mixture of ferulic acid ester and several phytosterols, attenuates the preference for dietary fat via a decrease in hypothalamic endoplasmic reticulum (ER) stress. γ -Oryzanol ameliorates HFD-induced DNA hypermethylation of the promoter region of D2R in the striatum of mice. γ -Oryzanol might regulate levels of DNMTs in a striatum-specific manner. γ -Oryzanol partially decreases ERR γ activity (an approximately 40% reduction of the innate value). Oral administration of γ -Oryzanol to male mice by gavage significantly attenuates the preference for an HFD (93% of the values for vehicle-treated mice), resulting in an apparent attenuation of body weight gain^[1].



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