

γ-Oryzanol

Catalog No: tcsc7898

Available Sizes

Size: 1g

Specifications

CAS No:

11042-64-1

Formula:

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Pathway:

Epigenetics

Target:

DNA Methyltransferase

Purity / Grade:

>98%

Solubility:

H2O :

Product Description

γ-Oryzanol is a potent **DNA methyltransferases** (**DNMTs**) inhibitor in the striatum of mice. γ-Oryzanol significantly inhibits the activities of **DNMT1** (IC_{50} =3.2 μM), **DNMT3a** (IC_{50} =22.3 μM).

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

In Vitro: γ -Oryzanol significantly inhibits the activities of DNMT1 (IC₅₀=3.2 μ M), DNMT 3a (IC₅₀=22.3 μ M) 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 ERR γ , 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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