

Catalog	Unit
TBI4607-50MG	50 mg
TBI4607-250MG	250 mg

Product Details

Formal Name: 1-[5-(1,3-Benzodioxol-5-yl)-1-oxo-2,4-pentadienyl]piperidine

Alternate Names: 1-Piperoylpiperidine

Molecular Formula: C₁₇H₁₉NO₃

Formula Weight: 285.30

CAS Number: 94-62-2

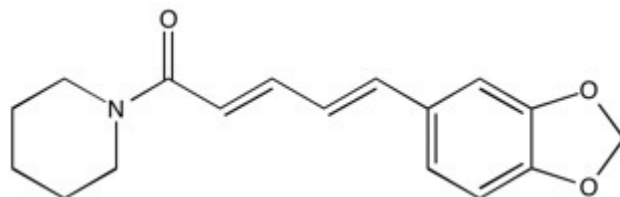
Purity: >98%

Formulation: powder

Solubility: Soluble in DMSO (up to at least 25 mg/ml)

Storage: -20°C

Stability: ≥ 2 years.



Applications

Up-regulator of skeletal muscle metabolism

Functions

Component of black pepper that activates TRPV1 (EC₅₀ = 38 μM), inhibits MAO-A/B (K_i = 19.0 / 3.19 μM), and stimulates chloride currents through GABAA receptors (EC₅₀ = 52.4 μM)¹⁻³. At 20 mg/kg, piperine significantly lowers blood glucose in alloxan-induced diabetic mice⁴. Also modulates cytochrome P450 family members, inhibiting MDR1, CYP3A4, CYP2E1, CYP2C9 while also increasing their expression⁴⁻⁶. Exhibits anti-inflammatory and anti-cancer effects⁵. Increases the metabolic rate of resting muscle (fast twitch skeletal fibers) without affecting slow twitch or cardiac fibers via destabilization of the super-relaxed state of myosin heads⁷.

Application Procedures

First dissolved in DMSO (up to at least 25 mg/ml), then diluted to aqueous buffer. Solutions in DMSO may be stored desiccated at -20°C for up to 2 months.

For research use only.