

Loganetin

Chemical Properties

CAS No.:	29748-10-5
Formula:	C ₁₁ H ₁₆ O ₅
Molecular Weight:	228.2
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Standard reference
Targets(IC ₅₀)	Others: None
In vitro	<p>To understand the role of intestinal microflora in expressing the pharmacological effect of ginsenoside Rb1, the metabolic activity of ginsenoside Rb1 by 148 fecal specimens was measured and its metabolizing β-glucosidase was cloned. METHODS AND RESULTS: The average activities for p-nitrophenyl-β-D-glucopyranoside and ginsenoside Rb1 were 0.097 ± 0.059 μmol/min/mg and 0.311 ± 0.118 pmol/min/mg, respectively. These enzyme activities were not different between male and female, or between ages. A gene encoding β-D-glucosidase (BgIX) was cloned from Bifidobacterium longum H-1, which transformed ginsenoside Rb1 to compound K. The probe for cloning was synthesized from the genes encoding a β-D-glucosidase of previously reported B. longum DJO10A. The sequences of the cloned gene revealed 2364 bp open reading frame (ORF) encoding a protein containing 787 amino acids (molecular weight of 95 kDa). The gene exhibited 99% homology (identities) to that of B. longum. The cloned gene was expressed under T7 promoter of the expression vector, pET-39b(+), in Escherichia coli BL21(DE3), and the expressed enzyme was purified by using HiTrap immobilized metal affinity chromatography (IMAC) HP. The enzyme potently biotransformed ginsenoside Rb1, loganin, arctiin and arbutin to ginsenoside Rd, Loganetin, arctigenin and hydroquinone, respectively, but was not active in the case of hesperidin, and kakkalide. CONCLUSIONS: This is the first report on cloning and expression of β-D-glucosidase from B. longum. Based on these findings, ginsenoside Rb1 may be metabolized to bioactive compound(s) by exo-β-D-glucosidase(s) produced from the intestinal bacteria and its pharmacological effects may be dependent on intestinal bacterial exo-β-D-glucosidase(s) activity.</p>

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.382 mL	21.911 mL	43.821 mL
5 mM	0.876 mL	4.382 mL	8.764 mL
10 mM	0.438 mL	2.191 mL	4.382 mL
50 mM	0.088 mL	0.438 mL	0.876 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Metabolism of ginsenoside Rb1 by human intestinal microflora and cloning of its metabolizing β -D-glucosidase from *Bifidobacterium longum* H-Biol Pharm Bull. 2012;35(4):573-81.
2. seco-iridoids from *Calycophyllum spruceanum* (Rubiaceae). Phytochemistry. 2003 Sep;64(2):549-53.

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