

研究论文

波叶青牛胆胰蛋白酶抑制剂的纯化及其性质研究

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摘要 采用亲和层析及电泳制备等方法,从防己科植物波叶青牛胆(*Tinospora crispa*)根茎中分离到一种胰蛋白酶抑制剂TCTI. 对其性质研究表明:TCTI的相对分子量约为10.0kD,对牛胰蛋白酶的抑制常数 K_i 为 $2.08 \times 10^{-7} \text{mol/L}$ (BAPNA为底物时),摩尔抑制比为1:3.5,是一种抑制活力很强的竞争性抑制剂. TCTI具有很高的耐热性,在100℃加热60min,仍保持93%的抑制活力. 另外, TCTI在低温容易结晶.

关键词 [波叶青牛胆](#) [胰蛋白酶抑制剂](#) [分离和纯化](#)

分类号

Purification and Characterization of a Trypsin Inhibitor from *Tinospora crispa*

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Abstract

A trypsin inhibitor named TCTI was isolated from the rhizomes of *Tinospora crispa* (Menispermaceae) by trichloroacetic acid precipitation, salting out, chromatography on trypsin-Sepharose 4B and SHyperTM10 FPLC column, preparative PAGE and electroelution. The relative molecular weight of TCTI was 10.0kD by TSDS-PAGE. The inhibition of trypsin by the TCTI was competitive, with a K_i value of $2.08 \times 10^{-7} \text{mol/L}$ (BANPA as substrate) and the mole ratio was about 1:3.5. TCTI was heat-tolerating. When heated up to 100C for 60 min, it still had 93% residual activities. On the other hand, TCTI can be easily crystalized under lower temperature.

Key words [Tinospora crispa](#) [Trypsin inhibitor](#) [Isolation and purification](#)

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