

栝楼蛋白 2: 栝楼蛋白部分化学结构的初步测定

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摘要 栝楼蛋白(Trichobitacin)是从栝楼(*Trichosanthes kirilowii* Maxim, Cucurbitaceae)中新发现的核糖体失活蛋白, 分子量为27,228; pI为9.6。应用基质辅助的激光解析飞行时间质谱(MALDI-TOF-MS)和快原子轰击质谱法(FAB-MS)分别测定胰蛋白酶酶解栝楼蛋白和天花粉蛋白(Trichosanthin)的混合肽质谱,

通过比较发现了一些分子量相同的肽。由于这两种蛋白质都来源于栝楼块根, 同源性比较强, 所以这些肽序列在两种蛋白质中基本一样; 再结合蛋白N-端自动顺序仪测定栝楼蛋白N-端的结果, 确定了栝楼蛋白N-端38个氨基酸的顺序, 栝楼蛋白经胰蛋白酶酶解后所得肽段用HPLC分离纯化, 再用蛋白质自动顺序仪, DABITC/PITC双偶合手工法和质谱法共确定了栝楼蛋白N-端, C-端等100多个氨基酸残基的序列。

关键词 [天花粉](#) [化学结构](#) [飞行时间质谱法](#) [栝楼](#) [栝楼蛋白](#)

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Trichobitacin 2: Determination of the partial primary structure of trichobitacin

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Abstract Trichobitacin is a new ribosome-inactivating protein (RIP) isolated from the press-residue of the fresh root tube of *Trichosanthes kirilowii* Maxim, Cucurbitaceae. Its molecular weight is 27, 228, and pI 9.6. From the mass peptides maps, determined by matrix-assisted laser desorption ionization-time of flight-mass spectrometry (MALDI-TOF-MS) and fast atom bombardment mass spectrometry (FAB-MS) of trichobitacin and trichosanthin digested by trypsin respectively, some corresponding peptides have been found. Because both of trichobitacin and trichosanthin are isolated from the root tube of *Trichosanthes kirilowii* Maxim, they are homologous, the amino acid sequences of the two proteins may be very similar, so these peptides may have similar sequences in two proteins. In addition to the results of protein N-terminal sequencer, the N-terminal 38 amino acids sequence of the trichobitacin has been determined, and more than 100 amino acids sequences have also been determined by the methods of protein automatic sequencer and manual DABITC/PITC double coupling as well as mass spectrometry respectively.

Key words [RADIX TRICHOSANTHIS](#) [CHEMICAL STRUCTURE](#) [TIME-OF-FLIGHT MASS SPECTROMETRY](#) [TRICHOSANTHES ANGUINA](#)

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