

技术交流

中成药保健食品中西地那非的液质联用确证方法研究

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摘要 通过提高去簇电压(declustering potential)的方式促使西地那非准分子离子在进入 Q_1 前发生碰撞诱导解离, 产生一级碎片离子, 然后采用三重四极杆质谱仪的 MS^2 模式对其中丰度较大的碎片离子进行质谱分析, 从而获得ESI- MS^3 碎片离子信息, 并以此探讨西地那非主要裂解途径, 确定裂解产生的4个主要碎片离子。在此基础上建立液相色谱-质谱多反应监测模式, 测定这4个碎片离子的色谱峰, 建立的确证方法有较高的检测灵敏度, 测定结果清晰、明确、易于判定, 具有超过规定要求的4个鉴别点, 完全能满足成分复杂的中成药和保健食品样品添加西地那非的确证检验。

关键词 [西地那非](#) [液相色谱-电喷雾离子化质谱](#) [确证方法](#)

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Verification Method for Sildenafil in Chinese Traditional Patented Medical Preparations and Dietary Supplements by LC-MS/MS

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Abstract With the declustering potential increasing, the collision-induced dissociation of the quasi-molecular ions of sildenafil took place before the ions enter Q_1 , and the primary fragment ions were generated. With the fragment ions as precursor ions respectively, information of the ESI- MS^3 ions was acquired by mass-spectrum analysis in MS^2 mode with a tandem mass spectrometer, and the fragmentation behavior of sildenafil was discussed. The 4 main fragment ions generated in the fragmentation were confirmed. Based on the determination of these 4 ions, a method of liquid chromatography coupled with electrospray ionization-multi-reaction monitoring was established for the verification of sildenafil. The method has a highly sensitivity, and the results are clear and easy to make a judgement. Having more than 4 identification points required in an official document, the method fully meets the requirement for the verification of sildenafil added in Chinese traditional patented medical preparation and dietary supplements.

Key words [sildenafil](#) [liquid chromatography-electronic spray ionization mass mass \(LC-ESI-MS/MS\)](#) [verification method](#)

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