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ICP-MS测定明胶空心胶囊中铅、铬、镉、砷、铜的含量

Determination of Pb, Cr, Cd, As and Cu in Vacant Gelatin Capsules by ICP-MS

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中文摘要:

目的 建立明胶空心胶囊中有害重金属元素含量的测定方法,对空心胶囊质量进行控制。方法 采用HNO₃对明胶空心胶囊进行微波消解制样,利用电感耦合等离子体质谱法(ICP-MS)同时测定样品中5种重金属元素铅、铬、镉、砷、铜的含量。结果 部分被测样品中铅、铬、砷有超标现象。该方法的加样回收率为95.4%~104.6%,RSD为1.8%~3.0%。结论 本方法操作简便、结果可靠,可用于明胶空心胶囊中重金属元素含量的测定。

英文摘要:

OBJECTIVE To establish a method to determine heavy metal elements in vacant gelatin capsules so as to control the quality of the samples. METHODS Vacant gelatin capsules were decomposed with HNO₃ by microwave digestion and heavy metal elements of Pb, Cr, Cd, As and Cu were determined simultaneously by ICP-MS. RESULTS The analytical results indicated that the content of Pb, Cr, and As in sample were partly beyond the limits. The recovery rates of the method were 95.4%-104.6%, the RSDs were in the range of 1.8%-3.0%. CONCLUSION The method is proved to be accurate, simple and convenient, which can be applied to practical sample analysis.

