

苹果渣中不同极性多酚的分离及体外抗氧化活性研究

Separation of polyphenols from apple pomace based on different polarities and their antioxidative activities in vitro

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中文摘要:

为了优化苹果多酚提取工艺, 进而提高苹果多酚提取物中强效多酚的含量, 该文采用液-液萃取方法按极性大小对果渣多酚进行分离, 进而采用1,1-二苯基-2-苦苯肼自由基法和铁离子还原/抗氧化力法对不同极性多酚体外抗氧化活性进行评价。结果表明: 液-液萃取方法, 可以实现不同极性多酚的有效分离, 不同极性苹果多酚, 其体外抗氧化活性有显著差异, 水层多酚活性最强, 其次为正丁醇层, 乙酸乙酯层相对较弱, 即多酚的抗氧化性与其极性呈正相关。因此, 工业化提取苹果渣中多酚时, 增大提取溶剂的极性有利于强效多酚的获取。

英文摘要:

To optimize the extraction technology of apple polyphenols and obtain higher content of powerful polyphenols from the extracts, polyphenols was extracted from the apple pomace by the method of liquid-liquid extraction and separated in the extraction solvent with different polarity. Antioxidative activities of the polyphenols for different polarity were measured in vitro by the method of 1,1-diphenyl-2-picrylhydrazyl radical and ferric reducing/antioxidant power. The results show that liquid-liquid extraction was a successful method for separation of the polyphenols for different polarity, and that their antioxidative activities in vitro order by polyphenols extracted with water > those extracted with n-butanol > extracted with ethyl acetate. The antioxidative activities of the polyphenols in vitro are positively correlated with their polarity. It can be concluded that powerful polyphenols may be better to obtain with the higher polarities extraction solvent when the polyphenols were extracted from apple pomace in industrial trial.

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