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Effective Purification Procedure of Amaranthin from Amaranthus Celosia argentea inflorescence

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Abstract

In order to develop the utility of amaranthin utility as natural red pigments in the edible plants, the extraction and purification procedures with arrangements were introduced. Freeze-dried amaranthus inflorescence was purposed for extraction using 80% ethanol after the washed-out step with ethanol to remove coexisting impurities (e.g., polyphenolics and betaxanthins). The purification methods for a similar betacyanin compound, betanin (found in beetroots), were arranged for that of amaranthin in Celosia argentea (CA). The prepared crude extract underwent column chromatography on an ODS column using HPLC system. After purification as a single peak in the chromatogram, the compound was confirmed as amaranthine based on its UV spectrum, MS data and HPLC data. Amaranthine is also expected as natural pigments for food products and as potent antioxidant for health-promoting foods. The reported procedure will effectively enhance the utility of potential ingredients for scientific research and applications for food processing in the future.

Author Keywords

Amaranthin, Celosia argentea, Antioxidant, LC-MS Analysis, Purification

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