研究業績　英文表記

和文	
表題	ヒシ外皮熱水抽出液に含まれるポリフェノールの特性と ヒト食後血糖値上昇抑制作用
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英文	
Title	Properties of Polyphenols in Hot Water Extract of Water Chestnut Husk and Suppressive Effect on Postprandial Blood Glucose Elevation in Humans.
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Abstract	In this study, we aimed to investigate the properties of polyphenols in the husk of the “water chestnut” which is an aquatic plant, and effect on postprandial blood glucose levels in humans. We prepared a hot water extract of the husk of the Japanese water chestnut (*Trapa japonica*) , and investigated the content of polyphenols in the extract and their stability against heat The result showed that the total polyphenol content in the hot water extract of water chestnut was approximately 200mg/100 皿£.and the total content of polyphenols (eugeniin, 1,2,3,6-tetra-*O*-galloyl-*β*-D-glucopyranose (TGG) and trapain) exclusive to water chestnut was approximately 20mg /100ml. Eugeniin and TGG were observed to be stable against heat ; however, trapain was sensitive to heat (80℃ or higher). Twenty-one healthy volunteers drank water or the hot water extract of water chestnut husk (200ml), and were subjected to a cooked rice load test. The group that consumed the hot water extract of water chestnut exhibited significant suppression in blood glucose elevation 20 and 30 minutes after meal. This was speculated to be due to the inhibitions of carbohydrase activity and glucose uptake into the small intestine by the polyphenols of water chestnut husk.
keyword	water chestnut, polyphenols, suppressive effect on blood glucose elevation, inhibitory effect of carbohydrase, Caco-2 cell

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