Formation of dipeptidyl peptidase-IV (DPP-IV) inhibitory peptides from Jack Bean (*Canavalia ensiformis* (L.) DC.) sprout in simulated digestion

Publons ID	(not set)
Wos ID	WOS:000996215400001
Doi	10.1007/s10068-023-01343-9
Title	Formation of dipeptidyl peptidase-IV (DPP-IV) inhibitory peptides from Jack Bean (*Canavalia ensiformis* (L.) DC.) sprout in simulated digestion
First Author	
Last Author	
Authors	Agustia, FC; Supriyadi; Murdiati, A; Indrati, R;
Publish Date	MAY 29 2023
Journal Name	FOOD SCIENCE AND BIOTECHNOLOGY
Citation	
Abstract	Bean sprouts are potential plant proteins that produce DPP-IV inhibitory peptides. These peptides must be stable and active in the brush border membrane of the small intestine to inhibit DPP-IV. The purpose of this research is to evaluate the DPP-IV inhibitory activity of jack bean sprouts using pepsin-pancreatin during simulated digestion, as well as the absorption of these peptides through the everted gut sac method. The results showed that after 180 min of digestion simulation, the Mw < 1 kDa peptide fraction of jack bean hydrolysate, which germinated for 60 h (HG60), had the highest inhibitory activity. The duodenum absorbs most of the peptides with inhibitory activity of 61.77%, which is slightly lower than activity after digestion (62.19%). These outcomes suggest that the DPP-IV inhibitory activity of HG60 can be maintained after digestion and absorption. Two novel peptides KAVGDPI and QGVVLRP identified after absorption contain crucial amino acids confirming as DPP-IV inhibitor.
Publish Type	Journal
Publish Year	2023
Page Begin	(not set)
Page End	(not set)
Issn	1226-7708
Eissn	2092-6456
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000996215400001
Author	FRISKA CITRA AGUSTIA, M.Sc.