

Increase in plasma concentrations of geranylgeranoic Acid after turmeric tablet intake by healthy volunteers.

[Mitake M](#), [Ogawa H](#), [Uebaba K](#), [Shidoji Y](#).

Molecular and Cellular Biology, Graduate School of Human Health Sciences, Siebold University of Nagasaki, Nagayo, Nagasaki 851-2195, Japan.

Abstract

Geranylgeranoic acid (GGA) is one of the most potent cancer-preventive acyclic retinoids. GGA has been shown to induce cell death in human hepatoma-derived HuH-7 cells. We have recently reported the natural occurrence of GGA and its related compounds in several medicinal herbs such as turmeric, basil, rosehip, cinnamon and others [Shidoji and Ogawa, *J. Lipid Res.*, 45: 1092-1103, 2004]. In the present study, we performed oral administration of turmeric tablets to healthy volunteers in order to investigate bioavailability of natural GGA. By using liquid chromatography/mass spectrometry, authentic GGA was eluted at a retention time of around 18 min as a negative ion of m/z 303.4. With healthy volunteers, plasma GGA was detected prior to the tablet intake and its concentrations were increased at 2 h after its intake and maintained at higher level until 4 h, suggesting an efficient bioavailability of preformed GGA in the turmeric tablets through oral administration. These results indicated that GGA in the turmeric tablet was absorbed as an intact form from intestinal mucosa. The present study provides a clue to conduct a research for cancer preventive roles of GGA in a number of spices.

PMID: 20490321 [PubMed - in process]