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Effects of Ginsenosides on Carbachol-Stimulated Phosphoinositide Turnover in Rat Cortical Cell Cultures

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INTRODUCTION

Ginseng, the root of *Panax ginseng* C.A. Meyer, is a well-known folk medicine that has been shown to produce a variety of medicinal effects, both nervous systems and non-nervous systems. Recent studies showed that ginseng saponins, which are also called ginsenosides, are the main molecular components responsible for the actions of ginseng. Ginsenosides are well characterized and have a four-ring, steroid-like structure with sugar moieties attached and about 30 ginsenosides have been isolated and identified from the root of *Panax* ginseng (1). Although ginsenosides stimulate PLC activity and increase intracellular free Ca^{2+} level in non-neuronal cells as mentioned above, it is not yet known whether or not ginsenosides exert an effect on phosphoinositide turnover in neuronal cells. Therefore, in the present study we examined the effects of GTS and various individual ginsenosides such as ginsenoside Rb_1, Rb_2, Rc, Rd, Re, Rf, Rg_1, and Rg_2 on the basal or carbachol-stimulated formation of inositol phosphates in rat cortical cell cultures.

References

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