Synopsis of Original Research Paper

Search for Fungal Constituents to Protect a Person from Allergic Skin Inflammation Caused by Cosmetics

Haruhiro Fujimoto

Faculty of Pharmaceutical Sciences, Chiba University

In order to protect a person from allergic skin inflammation caused by some cosmetics, survey to discover new fungal immunosup-pressive constituents which are helpful to induction of immunotolerance against such allergy, was executed in the use of more than 170 Ascomycetous fungi. On the survey, it was found out that *Gelasinospora multiforis*, *G.heterospora, G.longispora, G.kobi, Diplogelasinospora grovesii*, and *Microascus tardifaciens* produced appreciably immunosuppressive constituents. Solvent partition followed by repeated chromatographic fractionations of crude extracts obtained from the six fungi under the guidance of bioassay to test suppressive activity against proliferation of mouse splenic lymphocytes stimulated with mitogens afforded many immunosuppressive features. Namely, nine new 2-pyrones named multiforisins A-I from *G.multiforis*, some of the multiforisins together with a known metabolite sordarial from both *G.heterospora* and *G.longispora*, a novel bicyclic sesterterpene named kobiin and three new 2-furanones named kobifuranones A-C from *G.kobi*, two known metabolites macrophin and colletodiol together with a new stereoisomer of colletodiol named 10-epi-colletodiol from *D.grovesii*, and six known metabolites, questin, rubrocristin, cladosporin (asperentin), cladosporin 8-*O*-methylether, 5,7-dihydroxy-4-methylphthalide and asperflavin, together with two new 2,5-dioxopiperazines named tardioxopiperazines A and B from M.tardifaciens, were isolated as immunosuppressive features on this study. It was further examined whether interleukin-2 (IL-2) recovered proliferative suppressions of the lymphocytes caused by eight sample compounds, which were selected from these immunosuppressive constituents isolated this time from fungi, or not. It has been shown up to now that IL-2 has not recovered proliferative suppressions of the lymphocytes due to the eight compounds, indicating that they have not inhibited biosynthesis of IL-2.