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Plant Growth Promotion and Gibberellins Production by Endophytic Fungal Strains Isolated from Sand dune Flora of Eastern Coast of Korea

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Endophytic fungi constitute a major part of fungal symbionts associated with plants, supporting their hosts under extreme environmental conditions. 369 fungal strains were isolated from internal tissues of roots of 13 different sand dune flora. Secondary metabolites of these fungal isolates, expected to contain plant growth-promoting hormones, were analysed by bioassay screening using 2 leaved seedlings of waito-c rice. About 80% of fungal isolates were plant growth promoters while 17% were plant growth inhibitors, when compared with control seedlings treated with distilled water, culture media (Czapek) and culture filtrate of *Gibberella fujikuroi*. Rest (3%) showed no effect on plant growth. 3 fungal isolates with maximum plant growth promotion were analyzed for the quantification of fungal gibberellins in their culture filtrates using GC-MS SIM. Physiologically active gibberellins GA1, GA3, GA4 and GA7 were detected in the culture filtrates of our fungal isolates when extracted and analyzed against internal gibberellin standards. The fungal isolates were identified as *Penicillium citrinum* KACC 43900, *Gliomastix murorum* KACC 43902 and *Arthrinium phaeospermum* KACC 43901, through ITS region sequencing using universal primers ITS1 and 4.

Key words: Endophytic fungi, plant growth-promotion, gibberellins, sand dune flora

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The Strategy of OMSW (Oriental Medicine Silver Wellness)

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Driven by the desire to live both healthier and longer while facing the increase of healthcare costs and the inevitability of aging, Korean people have taken up a positive attitude to keep themselves in a good health. They are seeking the best condition in foods, beverages, medical devices and services, aiming at their wellness.

In addition, the common interest in healthcare services, consumer-oriented medical devices and health foods is also growing rapidly, fueled by an increase in the aging population whose primary concern is how to manage their healthcare properly.

The OMSW is a new industry to promote health and longevity by OMT (oriental medicine technology).

This is organized to produce the oriental health equipments, health foods and several products. and to construct a region-related oriental medicine wellness industry.

OMSW is composed of four different fields:

- Networking.
- Education.
- Technical development.
- Support Company.

OMSW center is also connected to College of oriental medicine of DEMC (Dong-Eui Medical Center), SPIC, KITECH, and APOM (The Association of Pusan Oriental Medicine) to support four different enterprise.

Conclusively, OMSW is to promote a regional renovation and raising a earnings through making a oriental silver wellness industry cluster.