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Adventitious roots of *Hyoscyamus niger* L.(Hn), a rich source of pharmaceutically important tropane alkaloids, proliferate vigorously in liquid medium without auxins. In order to investigate the growth-stimulating factors of Hn adventitious roots, mRNA was purified from the roots and differential display was performed using RT-PCR.
Hn adventitious roots were cultured for 5 weeks in Murashige and Skoog liquid medium, reached stationary stage of their growth, and the medium was changed to Woody Plant (WP) liquid medium for the stimulation of growth. After culturing for 6 days in the WP medium, the roots were harvested and their mRNAs were reverse-transcribed. The cDNAs were amplified, resolved by electrophoresis, and compared with those of the control roots in stationary growth stage. The bands specific to rapid growth stage were isolated and cloned to be analyzed for their sequences. Among five clones analyzed, clone 1 and 3 displayed high homologies to cDNAs of plant retrotransposons and ribitol dehydrogenase, respectively. In addition, the differential expression of clone 3 was confirmed by Northern blot analysis.

Poster Presentations - Field D3. Oriental Medicine

[PD3-1] [04/19/2001 (Thr) 13:30 - 14:30 / Hall 4]

Studies on the Quality Control of Crude Drugs (I) - Studies on the standard for standardization of Pinelliae Tuber using the instrumental analysis

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This study was carried out for the standardization and quality control of Pinelliae Tuber. It is used as an antiemetic, antitussive and sedative agent in traditional treatment. For a standard compound, guanosine was examined for the identification and quantitation for Pinelliae Tuber. As a result, the contents of guanosine are 0.01~0.42% with 23 samples collected from different countries such as China, Korea and Japan. Total ash content of Pinelliae Tuber samples is 0.5~8.7% with 8 inappropriate samples over the standard index (less than 3.5%).
The identification method was evaluated by TLC and quantification method by HPLC for Pinelliae Tuber. The proper conditions of TLC were ; absorbent : Silicagel gel GF254, solvent : chloroform·MeOH·glacial acetic acid (15 : 7 : 1), spraying reagent : Vanillin H2SO4. To quantify Pinelliae Tuber, HPLC method was applied and the optimal analytical conditions of HPLC were as follows ; column : μ-Bondapak C18, detector : PDA (254nm), mobile phase : 0.5% acetic acid solution(adjusted to pH 4.2 with NH4OH(1→2)). The availability of guanosine in water extract of Pinelliae Tuber preparations was 54.5~69.9%.

[PD3-2] [04/19/2001 (Thr) 13:30 - 14:30 / Hall 4]