Development of HPLC Fingerprinting Techniques and ITS DNA Authentication for Taiwan Tea

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ABSTRACT

50 Taiwan teas were used for catechin content analysis and their ITS sequences determination. There are twenty Tai-tea cultural cultivars (TA01~TA20) , fourteen Partial-Fermented tea (PF01~PF14) , twelve Mountain tea (TM01~TM12) and five commercial available teas (TC01~TC05) . The order catechins contents in Taiwan tea is Epigallocatechin gallate (EGCG) > Epigallocatechin (EGC) > Epicatechin (EC) > Gallocatechin (GC) > Epicatechin gallate (ECG) > Catechin (C) . The cultivars rich in ester-catechin are TA03, TA07, TA08, TA12, TA14, TA17, TA18, TM03 and TM05, there are excellent clones in developing health food products. EGCG3 ” Me content is determined to be higher than nine tea cultivars 1% dry leaf weight. The length of ITS region is range from 594 bp to 647 bp in our studied. The inter-specific variations in the ITS region was very high with 0.571~1 of divergence among the test samples. In conclusion, the HPLC fingerprinting and ITS authentication techniques for teas in Taiwan area were established.

Keywords : catechins, Epigallocatechin gallate, fingerprint, ITS, HPLC.

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