

# European Chemistry Congress

June 16-18, 2016 Rome, Italy

## *In vivo* anti-wrinkle and anti-melasma activities of peptides isolated from Pigeon pea (*Cajanus cajan* L. Millsp)

Tuanta Sematong, Ubon Rerk-am, Sarunya Laovithayanggoon, Bantika Kongsombat and Sirinan Thubthimthed  
Thailand Institute of Scientific and Technological Research, Thailand

The peptide was extracted by using alkaline from Pigeon pea (*Cajanus cajan* (L) Millsp). This work aimed to study antioxidant activity of peptide using in cosmetics. Antioxidant activities were measured by using DPPH assay, compared to ascorbic acid. The  $IC_{50}$  value of peptide extracts were 61  $\mu\text{g/ml}$ , considered higher than that in ascorbic acid ( $IC_{50} = 1.37 \mu\text{g/ml}$ ). Whereas the inhibition on dopa oxidase activities of mushroom tyrosinase were ( $IC_{50}$ ) 41  $\mu\text{g/ml}$  which were weaker than arbutin ( $IC_{50} = 1.91 \mu\text{g/ml}$ ). The stimulating effect of dermal fibroblasts (ATCC CRL-1474) on collagen type I synthesis were evaluated by the ELISA test kit. The peptide extracts resulted in the highest activity for stimulating collagen type I synthesis. The activities at concentration of 200  $\mu\text{g/ml}$  were found in the range of  $59.34 \pm 2.17$ . This effect was nearly the same ascorbic acid ( $59.51 \pm 3.17\%$ ) at concentration of 50  $\mu\text{g/ml}$ . The anti-wrinkle and anti-melasma were evaluated for 8 weeks which subjected on 22  $\pm$  2 of Healthy Asian skin type female with their age between 35-65 years old. The anti-melasma was tested by using chromametry technique, the solution of 0.2 % peptide was able to significantly lighten the treated melasma after 8 weeks. Skin replica with Shadow casting analysis for anti-wrinkle effect on the crow's feet area, was significantly decreased the number of wrinkles (-11.0 of -17.4 %,  $p < 0.01$ ), and mean depth (-9.1  $\mu\text{m}$  or -8.9 %,  $p < 0.05$ ). The results showed that the peptides were extracted with alkaline from Pigeon pea were suitable as active ingredients in cosmetics.

### Biography

Tuanta Sematong has completed her degree from Chankasem Rajabhat University. Her excellent experience in Pharmaceutical and natural products safety evaluation as well as efficiency and safety of herbal products development and standardization for more than 30 years at Pharmaceutical and natural products department, Thailand institute of Scientific and Technological Research (TISTR), Thailand. Besides, her great specialize in animal model experimentation has supported SMEs, pharmaceutical companies and private sectors for products evaluation.

[ubon@tistr.or.th](mailto:ubon@tistr.or.th)

### Notes: