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Determination of *in vitro* angiotensin I converting enzyme inhibition activity of *Chiropsalmus quadrigatus* haeckel (Box Jellyfish) venom hydrolysate

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Hypertension is a common problem among people worldwide and statistics from the World Health Organization shows that 21,000 Filipinos died of hypertensive heart disease in 2012 accounting for 3.7% of deaths that year. This number continues to rise showing an increasing trend from the year 2000 up to the present (WHO, 2015). ACE (angiotensin I converting enzyme) inhibitors are among the first-line treatment for high blood pressure. According to Balti (2015), peptides with ACE inhibitory activity have been found in several seafood hydrolysates and these peptides have shown potent antihypertensive activity. As these jellyfish are considered as waste, and even pests by most fishermen, utilizing it as a source of ACE inhibitory peptides is a better option instead of just throwing it away. The venom extract was obtained by centrifugation (Gyrozen Microcentrifuge 1730R, Korea) at 5000 rpm for 15 minutes at 4°C, followed by ultrasonication (Power Sonic410, Korea), and it was further clarified by centrifugation at 20,000 x g for 1 hour at 4°C. Protein content of 12.99 µg/mL was determined using Bradford assay with Coomassie Brilliant BlueG-250 as indicator. The jellyfish venom extract was subjected to a two-step enzymatic hydrolysis with pepsin, followed by digestion with papain. The enzymatic hydrolysate was then subjected to column chromatography with Sephadex G-25 as the stationary phase and a linear gradient of sodium chloride was used for elution. The fractions were pooled together based on the Bradford assay. *In vitro* ACE inhibition was determined using ACE kit-WST from Dojindo Laboratories, and the absorbances were measured in triplicate using SH-1000 Lab Microplate reader (Corona Electric Co., Inc., Japan). Fractions 3, 4, and 7, exhibited high percent ACE inhibition of 86.49%, 85.71%, and 83.12%, respectively, which can be further purified to obtain potent ACE inhibitory peptides.

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Drug release from a textile fabric to the skin for cutaneous therapies

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The paper summarizes the findings of several researches published by our research group in various journals (*Journal of Controlled Release, Carbohydrate Polymers, Journal of Pharmaceutics and Drug Delivery Research, Journal of Materials Science - Materials in Medicine,* etc.) on the temporary storage of a drug on a textile fabric worn directly against the skin. Under the action of various dermal stimuli (perspiration, cutaneous enzymes, friction), the drug stored in the fabric of the pajamas top, for instance, is released to the skin. The findings of these researches refer to contact and atopic dermatitis, psoriasis, chronic venous insufficiency and other conditions. The findings described in the paper are based on researches that used the following active ingredients: troxerutin, tacrolimus, hydrocortisone, honokiol, *Viola Tricoloris Herba* aqueous extract and menthol, *Mentha piperita* or propolis alcoholic extract. The research consisted of tests conducted to detect DL50 or biochemical blood changes and to determine the drug dose. *In vitro* release tests and clinical studies were conducted in patients suffering from dermatological conditions. The paper is of a practical exploratory nature and does not provide punctual data on drug doses, prescriptions, concentrations, etc., which may however be found in the References. The paper also tackles the changes occurring in the drug storage system on the fibrous polymer surface depending on the physical and chemical properties of the active ingredient of the drug. The paper provides information meant to assess the potential and limitations of drug transfer from a piece of clothing to the skin.

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