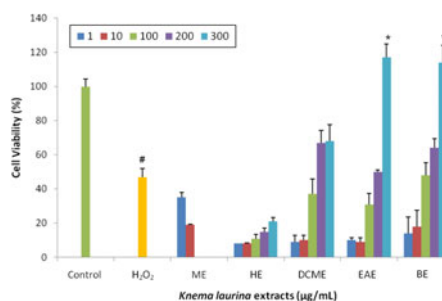


SHORT COMMUNICATION

Neuroprotective effect from stem bark extracts of *Knema laurina* against H₂O₂- and A β _{1–42}-induced cell death in human SH-SY5Y cellsNorsharina Ismail^a, Muhammad Nadeem Akhtar^{b*}, Maznah Ismail^a, Seema Zareen^b, Syed Adnan Ali Shah^c, Nordin Hj Lajis^d and Saiful N. Tajuddin^b

^aNutricosmeceuticals and Nutrigenomics Programme, Laboratory of Molecular Biomedicine, Institute of Bioscience, University Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia; ^bFaculty of Industrial Sciences & Technology, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Kuantan Pahang, Malaysia; ^cFaculty of Pharmacy, Universiti Teknologi MARA (UiTM) Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor Darul Ehsan, Malaysia; ^dScientific Chairs Unit, Taibah University, P.O. Box 30001, 41311 Madinah al Munawarah, Saudi Arabia

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The stem bark extracts of *Knema laurina* inhibited the hydrogen peroxide (H₂O₂)- and aggregated amyloid β -peptide 1–42 length (A β _{1–42})-induced cell death in differentiated SH-SY5Y cells. Exposure of 250 μ M H₂O₂ or 20 μ M A β _{1–42} to the cells for 24 h reduced 50% of cell viability. Pretreatment of cells with ethyl acetate extract (EAE) or *n*-butanol extract (BE) at 300 μ g/mL and then exposure to H₂O₂ protected the cells against the neurotoxic effects of H₂O₂. Besides, methanolic extract (ME) at 1 and 10 μ g/mL exerted neuroprotective effect on A β _{1–42}-induced toxicity to the cells. These results showed that EAE, BE and ME exhibited neuroprotective activities against H₂O₂- and A β _{1–42}-induced cell death. Flavonoids (**3–6**) and β -sitosterol glucoside (**8**) were isolated from the EAE. Compound **1** was isolated from hexane extract, and compounds **2** and **7** were isolated from dichloromethane extract. All these observations provide the possible evidence for contribution in the neuroprotective effects.

Keywords: neuroprotective; *Knema laurina*; hydrogen peroxide; A β _{1–42}; SH-SY5Y cell; flavonoids

*Corresponding author. Email: nadeem@ump.edu.my, nadeemupm@gmail.com