Official Journal of TESMA
Regenerative Research
www.regres.tesma.org.my
E-ISSN 2232-0822
Tissue Engineering and Regenerative Medicine Society of Malaysia

Regenerative Research 7(1) 2018 133

OLIVE OIL PHENOLIC COMPOUND HYDROXYTYROSOL STIMULATE HUMAN SCHWANN CELL PROLIFERATION

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ARTICLE INFO

Published: 26th August 2018
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KEYWORDS

Schwann cell;
Myelination;
Olive oil phenol;
Pydroxytyrosol

SUMMARY

Introduction: Recent advances in alternative medicine has identified several potential candidates in therapeutic area especially involving peripheral demyelination. One of the most promising candidates, hydroxytyrosol (HT) has been well portrayed in various neurological disease models such as Alzheimer's disease, Parkinson's disease, and peripheral neuropathy. Therefore, the aim of the study is to observe the effect of HT on Schwann cell proliferation and viability. **Materials and methods:** Primary Human Schwann Cell (HSC) were characterised via immunofluorescence technique. Later, HSC were cultured for 9 days and proliferation rate were calculated. Then, the viability of HSC culture treated with various concentrations of HT (µg/ml) after 24 hours were determined via MTT assay. **Results:** Our results showed HSC expressed S100β, GFAP, MBP and p75NGFR indicating that different stages of HSC were identified. Growth rate of HSC showed 0.008970064 $^{-1}$ and population doubling time at 77.27 hours. The viability of HSC in various concentrations of HT have seen multimodal distributions. HT at 0.625, 0.02, and 0.005 µg/ml significantly increased the total number of viable HSCs (p value <0.05, <0.01 respectively). Concentration of HT at 80 µg/ml reduce the viability of Schwann cell after 24 hours of treatment by half. **Conclusion:** HT increased the total number of viable HSC and increased proliferation of HSC in *in vitro* culture.