

RESEARCH DIRECTIONS

Protective Hormones

Professor Nikolaus Sucher of the Centre for Complementary Medicine is investigating the ability of hormones such as oestrogen and other similar natural compounds to protect the brain from degenerative disease by looking at their effects on a molecular level. This research is supported by a grant from the National Health and Medical Research Council.

'With an aging population, women are living longer with reduced oestrogen levels, so the role that oestrogen plays in helping to prevent cardiovascular and neurodegenerative disorders such as stroke, Alzheimer's and Parkinson's disease is one that needs urgent clarification', says Professor Sucher. 'Though we have a good understanding of the processes of damage to the brain's neurons in neurodegenerative disorders, it hasn't so far led to successful treatments for the majority of people with these conditions. Oestrogen has known neuroprotective (helpful) properties but has also been implicated in certain cancers and other adverse effects on women's health. A pilot study has shown that phyto-oestrogens and phytosterols – naturally occurring plant compounds with oestrogen-like effects in humans and animals – also show these neuroprotective effects. This study will explore how this happens in more detail, furthering the development of safe and effective herbal medicines that impede or slow the development of neurodegenerative disease.'

Cellular experiments in the laboratory will look at the chemical effects of the neuroprotective compounds oestrogen, phyto-oestrogens and phytosterols on neuronal cells damaged in a variety of ways.



The development of safe, reliable and effective herbal and plant-based medicines for the treatment of neurodegenerative disorders in women will be a great step forward in improving women's health as they age. This will improve women's quality of life and reduce costs to the community associated with health treatments and care for people with these conditions in their more advanced stages. These results may also contribute to the confirmation of certain "foods as medicines" in peoples' diets as a preventative health measure.

Project Title: Molecular investigations of the neuroprotective activity of oestrogen, phytoestrogens, and phytosterols
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