

## UNILEVER AND NEURO-BIO DISCOVER A NOVEL MARKER OF SKIN AGING OF POSSIBLE RELEVANCE TO ALZHEIMER'S DISEASE

**In a pioneering discovery, scientists at Unilever and Neuro-Bio  
identify a marker in human skin that reflects aging.**

[A novel peptide 'T14' reflects age and photo-aging in human skin | Aging \(aging-us.com\)](#)

Publishing their work in the journal 'Aging', Neuro-Bio researchers in the UK, in collaboration with Skin Research and Development at Unilever, have demonstrated that T14, a molecule discovered in the brain by Baroness Susan Greenfield, can also report on the biological aging process in human skin, and this phenomenon further incorporates ageing induced by long-term sun exposure.

In the twenty years since T14 was first identified [1], evidence has become increasingly compelling that this molecule plays an important role in early cell growth and normal development. However, this action can become toxic if triggered inappropriately in maturity [2] and ultimately could lead to Alzheimer's disease (AD) where brain levels of T14 reflect the degree of degeneration [3, 4]. There is increasing evidence that aberrations in the skin could be linked to aberrations in the brain: excessive production of amyloid beta has been demonstrated in the skin of patients with dementia [5] and amyloid is present in skin of dementia patients more frequently than in healthy age matched controls [6]. Patients with psoriasis ie overactive skin cell production, have shown a significantly increased risk of AD [7, 8] whilst therapeutics for psoriasis are being investigated for their possible impact on AD. Hence the current study could have eventual implications for a potential skin-based screen for AD and other degenerative diseases, based on age-matched T14 levels.

Baroness Professor Susan Greenfield, Founder and CEO of Neuro-Bio, says: *"We are thrilled to be working with Unilever, without whom it would have been impossible to draw the parallels in this study between brain and skin. Skin cells have the same embryonic origin as brain cells, so it may not be surprising that they use the same chemical messengers, in this case, T14. Our results have suggested that T14 is an agent promoting cell growth and renewal, and since skin cells are constantly being renewed, will continue to function in skin, though becoming less efficient with age and premature aging with sun exposure."*

Dr Jason Harcup, one of the authors and Global Vice President Skin Care R&D at Unilever says: *"When we learned of the groundbreaking work being done at Neuro-Bio we were eager to explore its lateral implications for how skin suffers from ageing and various forms of stress from environmental to psychological. We are delighted that the collaboration has uncovered a new connection, bringing both fertile insights for skin health and a step forward in the Neuro-Bio quest for methods for the early detection of AD."*

Further exploration of the T14 system in the epidermis might prompt new insights into the treatment of hyperproliferative skin disorders such as psoriasis and eczema, as well as into the mechanisms of normal skin age and ageing. Moreover Neuro-Bio believes that detection and measurement of T14 could be developed as an alternative skin biopsy to monitor how individual skin aging might vary with calendar age and where it might even be possible to identify the occurrence of the degenerative process during the ten to twenty years that typically elapse before the effects of the degeneration become apparent in symptoms.

**ENDS**

## Notes to Editors

### About Neuro-Bio

Neuro-Bio is a privately-owned biotech out of Oxford University with a focus on developing a first-in-class effective treatment for neurodegenerative disease. The company has discovered a novel 14 amino acid bioactive peptide (T14) derived from the C terminus of acetylcholinesterase (AChE). Although need for cell growth in development, T14 becomes neurotoxic in the mature brain if triggered inappropriately: published data shows it to be a potential key driver of neurodegeneration since it is reactivated in Alzheimer's, increasing as the disease progresses.

Based on almost 40 years of research by Professor Baroness Greenfield initially at Oxford University, Neuro-Bio Ltd was incorporated in 2013, when seed funding enabled the first patent filing on chemical composition of matter for neuroprotection. The company now has 18 patent families encompassing 14 independent assets.

For more information, visit [www.neuro-bio.com](http://www.neuro-bio.com)

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