Congress Abstracts

Natural Health Products Research Society of Canada

Natural Health Products, Probiotics & Neurodegeneration Online Symposium 2025

Tuesday, November 18, 2025, 1 – 5 PM EST

Online via Zoom

Natural Health Products, Probiotics & Neurodegeneration Online Symposium 2025

By Siyaram Pandey – Organizing Chair
BOD – Natural Health Products Research Society of Canada Distinguished University Professor
University of Windsor, Windsor, ON

Summary

Various natural health products (NHPs), including extracts from Ashwagandha root (*Withania somnifera*) and Prasachandaeng, natural supplementary compounds, prebiotics and probiotics have shown excellent preventative and therapeutic effects against Alzheiemer's, Parkinson's, and related neurodegenerative diseases. Some of these extracts have undergone successful clinical studies as well. Some highlights of NHP intervention are economic and health-forward sustainability, ease of administration, and healing benefits with long-term use. Many researchers have explored these ideas with interesting results, including the recovery of cellular and symptomatic conditions following intervention. Several of the NHPs have potential to prevent neurodegenerative diseases, as well as mitigate disease progression and enhance quality of life.

The current symposium provided platform for many of the aforementioned topics as well as esteemed invited plenary experts on probiotic regulatory affairs, efficacy of clinical probiotic intervention in neurodegenerative disease patients, and novel nanomicellar formulation of natural compounds and ethanolic plant-based extracts for better bioavailability and their anti- neurodegenerative abilities. Five young researchers also presented their fascinating work on NHP intervention to prevent and treat progressive neurodegenerative pathways. It is extremely engaging to hear the collaborative communications regarding pre-clinical and clinical studies about NHPs against neurodegeneration discussed in this symposium.

Ethnopharmacological Validation of Prasachandaeng Remedy: IL-6 Inhibitory Mechanisms Supporting Traditional Anti-inflammatory Uses

by Nuntika Prommee | Division of Applied Thai Traditional Medicine, Faculty of Public Health, Naresuan University, Phitsanulok, 65000, Thailand
Abstract ID: 158
Event: NHPs, Probiotics & Neurodegeneration
Topic: Neurodegeneration Research
Presenter Name: Nuntika Prommee
Keywords: Anti-inflammatory activity, Ethnopharmacology, Prasachandaeng remedy, Thai traditional medicine

Summary / Résumé

Prasachandaeng remedy (PSD) represents a significant ethnopharmacological preparation officially recognized within the Thailand National List of Essential Drug, traditionally employed in the therapeutic management of fever and associated inflammatory conditions. This study aimed to investigate the anti-inflammatory activities and underlying mechanisms of powder of PSD (PSDP) and the ethanolic extract of PSD (PSDE) in alignment with its traditional uses. The anti-inflammatory activities was evaluated via IL-6 using ELISA assay. *In vivo* anti-inflammatory effects were assessed using the carrageenan-induced paw edema in animal. PSDE and PSDP demonstrated IL-6 inhibitory activities with IC_{5O} values of 12.99±1.22 and 32.3O±1.5O 5g/mL, respectively, with the PSDE exhibited 1.96-fold and 3.91-fold greater potency than acetaminophen and

ibuprofen, respectively. *In vivo* studies revealed anti-inflammatory inhibition of 49.45% for the PSDE compared to 54.12% for ibuprofen. This study provides scientific evidence supporting the traditional use of PSD for inflammatory and febrile conditions through IL-6 and ACE-2 inhibitory mechanisms.

Abstract ID: ⊐5P for Natural Health Product Research Society of Canada (Auto-Cenerated ⊐6 December, 2025 8:25 am)

MRI As A Diagnostic Tool To Observe Structural Changes In The Alzheimer's Disease Mouse Model To Evaluate The Efficacy Of Treatment Of Ubisol-Q1O And Ashwagandha

by Alex Stoinescu | Keanna Dube | Siyaram Pandey | University of Windsor | University of Windsor | University of Windsor
Abstract ID: 159
Event: NHPs, Probiotics & Neurodegeneration
Topic: Neurodegeneration Research
Presenter Name: Alex Stoinescu
Keywords: Alzheimer|'s Disease, Magnetic Resonance Imaging, Natural Health Products, Neurodegeneration, Transgenic 5XFAD Mouse Model

Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by amyloid-beta plaques and neurofibrillary tangles, where early pathological changes precede the symptoms by decades. Additional mechanisms include impaired autophagy, inflammation, oxidative stress, and synaptic dysfunction. Current FDA-approved treatments offer modest symptomatic relief. Natural health products (NHPs) such as Coenzyme-Q1O and Ashwagandha root extract are affordable, accessible, and suitable for long-term use. This study evaluated the neuroprotective potential of a combined CoenzymeQ1O-Ashwagandha tonic in the 5XFAD mouse model. Structural brain changes were assessed longitudinally using magnetic resonance imaging (MRI), with manual segmentation performed in 3D Slicer referencing the Allen Mouse Brain Atlas. It was hypothesized that treated transgenic mice would exhibit brain structures more similar to wild-type controls than untreated transgenic mice. Results indicated that treatment preserved hippocampal and ventricular integrity, while untreated mice showed significant white matter enlargement in regions including the cerebellar peduncles, corpus callosum, and fimbria. These findings suggest that combined tonic treatment may mitigate AD-related neurodegeneration. Future work introducing treatment at later stages and employing MRI coregistration with anatomical atlases may yield deeper insights into the therapeutic potential of the tonic treatment.

Abstract ID: ⊐6⊐ for Natural Health Product Research Society of Canada (Auto-Cenerated ⊐6 December, 2025 8:33 am)

Novel Treatment of Combined Ubisol-Q1O and Ethanolic Ashwagandha (Withania somnifera) Extract Preserves Dendritic Health and Memory in a 5xFAD Mouse Model

by Keanna Dube | Siyaram Pandey | Michelle Truong | University of Windsor | University of Windsor | University of Windsor
Abstract ID: 161
Event: NHPs, Probiotics & Neurodegeneration
Topic: Neurodegeneration Research
Presenter Name: Keanna Dube

Keywords: 5xFAD mice, Alzheimer's disease, Ashwagandha extract, Golgi-Cox, Ubisol-Q10, coenzyme-Q10, cognitive memory test, natural health products

Summary

Alzheimer's disease (AD) involves synaptic loss, dendritic degeneration, and cognitive decline driven by amyloid-β aggregation, tau pathology, and neuroinflammation. The current study tested a novel therapy of combined two natural health products, water-soluble coenzyme-Q1O (Ubisol-Q1O; UQ) and ethanolic ashwagandha root extract (*Withania somnifera*; ASH), formulated to simultaneously target multiple mechanisms involved in AD neurodegeneration. Male transgenic 5xFAD mice received the combined "Tonic" (O.O5µg/mL UQ+2mg/mL ASH; n=8) or control solution (n=8) from 2-11mo of age, with wild-type controls (n=7) for comparison. Cognitive performance was assessed longitudinally using novel object and novel location recognition tests in an X-maze, and post-mortem Golgi-Cox staining quantified dendritic complexity and neuronal morphology in the hippocampus. Preliminary data reveal that treated 5xFAD mice exhibit preserved memory performance, as indicated by increased exploration preference for novel stimuli, and significantly more mature neuronal morphology compared to untreated transgenic mice. Results from treated mice parallel wild-type controls, indicating robust neuroprotection and synaptic maintenance. Together, the cognitive and morphological findings provide strong preliminary evidence for the efficacy of UQ+ASH therapy in providing a safe, multi-targeting therapy to halt or slow AD-related cognitive and neuronal degeneration.

Probiotics and Synbiotics Affect the Proliferation and Oxidative Stress in HT-29 and SH-SY5Y Cells

by Editha Renesteen | Satya Prakash | McGill University | McGill University
Abstract ID: 162
Event: NHPs, Probiotics & Neurodegeneration
Topic: Neurodegeneration Research
Presenter Name: Editha Renesteen
Keywords: HT-29 cells, Probiotics, SH-SY5Y cells, oxidative stress, proliferation, synbiotics

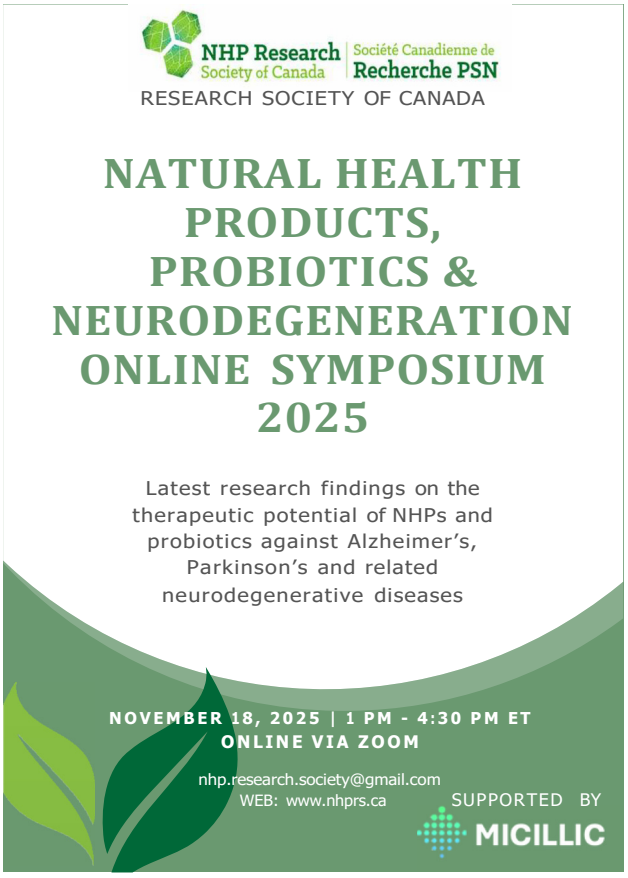
The human gut microbiome plays a crucial role in maintaining health by influencing various physiological processes through complex interactions with the host. Among the strategies to modulate this microbiome, probiotics and synbiotics have garnered significant attention for their potential health benefits. The current study designs optimize and test a novel probiotic and synbiotic formulation consisting of three metabolically active probiotics, *Lactobacillus plantarum*, *Lactobacillus fermentum,* and *Bifidobacteria infantis,* together with a novel polyphenol-rich prebiotic, *Triphala.* Additionally, the effects of such probiotics and synbiotics on HT-29 and SH-SY5Y cells on proliferation and oxidative stress were studied. The results showed that there were no significant differences in cell proliferation of HT-29 and SY-5Y cells after incubating with probiotic and synbiotic formulations for 6 hours. Moreover, after 24 hours, the synbiotic treatment increased SH-SY5Y cell proliferation by 2- fold. Further, the reactive oxygen species level significantly decreased in both cells treated with synbiotics compared to the control. Altogether, the present study suggested that probiotic and synbiotic treatments were safe to the cells, as shown in the proliferation and oxidative stress levels in both human colon cancer and neuroblastoma cells.

Ubisol-Q1O and Ethanolic Ashwagandha (Withania somnifera) Extract Reduce Frailty in a Transgenic Alzheimer's Mouse Model

by Keanna Dube | Siyaram Pandey | Maira Chaudhry | University of Windsor | University of Windsor | University of Windsor

Abstract ID: 160
Event: NHPs, Probiotics & Neurodegeneration
Topic: Neurodegeneration Research
Presenter Name: Keanna Dube
Keywords: 5xFAD mice, Alzheimer's disease, Ashwagandha extract, Frailty index, Ubisol-Q10, coenzyme-Q10, natural health products

Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by amyloid-β deposition, tau pathology, and neuroinflammation, leading to systemic and neurological decline. In the current study, we investigated a novel therapy combining two natural health products, water-soluble coenzyme-Q1O (Ubisol-Q1O; UQ) and ethanolic ashwagandha root extract (*Withania somnifera*; ASH), for their multi-targeted neuroprotective potential. Male transgenic 5xFAD mice and wild-type controls (n=7) were provided either the combined "Tonic" (O.O5µg/mL UQ+2mg/mL ASH; n=8) or control solution (n=8) from 2-11 months of age. The mouse frailty index (FI) was used to assess physical health and biological aging as indicators of systemic resilience over multiple timepoints throughout the disease progression. Preliminary results indicate that treated 5xFAD mice maintain significantly lower frailty scores compared to untreated transgenics, remaining comparable to wild-type controls across multiple aging domains. These findings suggest that longitudinal UQ+ASH administration may relieve age-related physiological decline alongside neurodegenerative progression. This approach emphasizes the value of frailty as a sensitive biomarker of whole-body health and efficacy of therapeutics in AD models. Together, these results support the potential of UQ+ASH as a safe, long-term, multi-targeting intervention which can preserve both neurological and systemic resilience throughout AD progression.

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JOIN US TO DISCOVER GROUND BREAKING RESEARCH ON NHPS AND THEIR ANTI-NEURODEGENERATIVE EFFECTS
Symposium Goals & Highlights
This symposium will provide a platform to share the latest research, foster collaboration, and highlight advances in preventative and therapeutic approaches to Alzheimer's, Parkinson's, and related neurodegenerative diseases.
Key Features
• Four distinguished invited speakers presenting groundbreaking insights
• 5 student presentations showcasing emerging research
• $500 in awards to recognize outstanding research contributions
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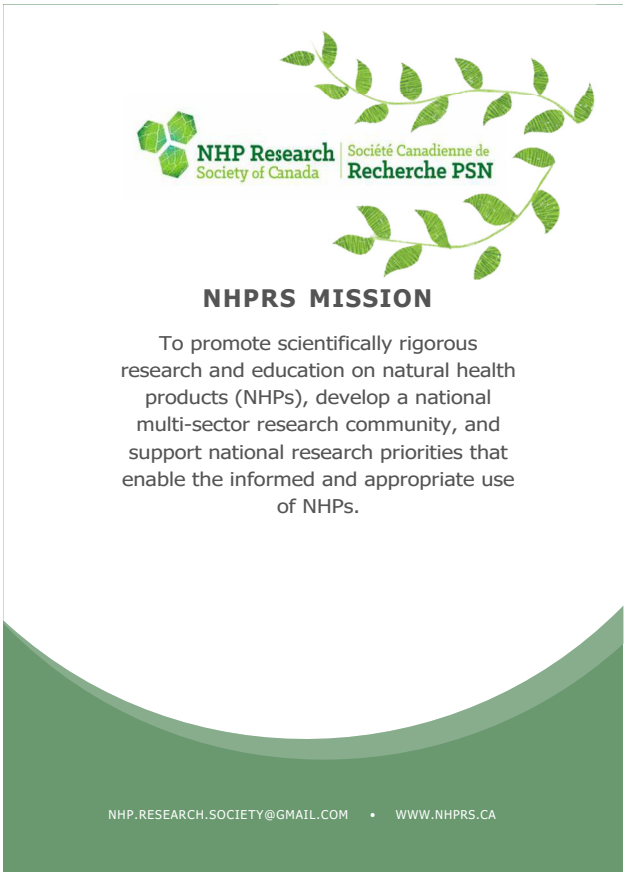
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NHPRS MISSION
To promote scientifically rigorous research and education on natural health products (NHPs), develop a national multi-sector research community, and support national research priorities that enable the informed and appropriate use of NHPs.
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PLENARY SPEAKERS

SIYARAM PANDEY, PHD, DISTINGUISHED UNIVERSITY PROFESSOR, UNIVERSITY OF WINDSOR, ON, CANADA.
A leading researcher in neurodegeneration and cancer, Dr. Pandey's work on Ubisol-Q10 and Dandelion Root Extract has progressed to clinical trials, offering new hope for neurodegenerative diseases and drug-refractory cancers.

FAUSTINUS KWABENA YEBOAH, PHD, CHIEF SCIENTIFIC OFFICER, MICILLIC LDA, BC, CANADA.
With over 25 years in pharmaceutical development, Dr. Yeboah is an expert in formulation science, cGMP manufacturing, and CMC strategy. His work bridges biopharmaceuticals, nutraceuticals, and food sciences.

SATYA PRAKASH , PHD, PROFESSOR OF BIOMEDICAL ENGINEERING, MCGILL UNIVERSITY, MONTREAL, QC, CANADA.
Dr. Prakash's work bridges the microbiome, probiotics, and chronic disease. He has made significant contributions to understanding how probiotic formulations can impact neurological disorders, metabolic syndrome, and aging. His innovations also extend to medical devices and targeted drug delivery.

MARIE-EVE BOYTE, CEO NUTRAPHARMA CONSULTING SERVICES INC (NPCS), MONTREAL, QC, CANADA.
A leading expert in probiotics with 15+ years of experience. Marie-Eve holds key positions in the International Probiotics Association (IPA) and USP, shaping global quality standards for dietary supplements.

Join Zoom Meeting:
https://us06web.zoom.us/j/81185472391?pwd=vDJk9FArgCa4HCbpe39da1e6T3B8s8.1
Meeting ID: 811 8547 2391 Passcode: 339175

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NATURAL HEALTH PRODUCTS, PROBIOTICS & NEURODEGENERATION ONLINE SYMPOSIUM

TUESDAY, NOVEMBER 18, 2025 FROM 1:00 PM – 4:30 PM

SESSION A

Scientific Validation of the Anti-Neurodegenerative Properties of NHPs, their Role in Prevention, Therapy and Health Management.

Chaired by Dr. Kieran Cooley, ND, The Canadian College of Naturopathic Medicine, Toronto, ON, Canada.

12:55 PM Check-in, word from our sponsor, and introduction from Chair.

1:10 PM Invited Speaker.

Dr. Siyaram Pandey, University of Windsor, "Preclinical Research to halt progression of Alzheimer's Disease."

1:40 PM 10-Minute Research Spotlight Presentations.

Nuntika Prommee, Division of Applied Thai Traditional Medicine, Faculty of Public Health, Naresuan University, Phitsanulok, 65000, Thailand, "Ethnopharmacological Validation of Prasachandaeng Remedy: IL-6 Inhibitory Mechanisms Supporting Traditional Anti-inflammatory Uses."

Keanna Dube, **University of Windsor**, "Novel Treatment of Combined Ubisol-Q10 and Ethanolic Ashwagandha (Withania somnifera) Extract Preserves Dendritic Health and Memory in a 5xFAD Mouse Model."

Editha Renesteen, McGill University, "Probiotics and Synbiotics Affect the Proliferation and Oxidative Stress in HT-29 and SH-SY5Y Cells."

Alex Stoinescu, University of Windsor, "MRI As A Diagnostic Tool To Observe Structural Changes In The Alzheimer's Disease Mouse Model To Evaluate The Efficacy Of Treatment Of Ubisol-Q10 And Ashwagandha."

Join Zoom Meeting:
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NATURAL HEALTH PRODUCTS, PROBIOTICS & NEURODEGENERATION ONLINE SYMPOSIUM

TUESDAY, NOVEMBER 18, 2025 FROM 1:00 PM – 4:30 PM

SESSION A CONT.

2:23 PM 3-Minute Research Spotlight Presentation.
Keanna Dube, University of Windsor, "Ubisol-Q10 an Ethanolic Ashwagandha (Withania somnifera) Extract Reduce Frailty in a Transgenic Alzheimer's Mouse Model."

2:26 PM Open to Questions for 3-Minute and 10-Minute Spotlight Presenters.

2:30 PM BREAK

SESSION B
Scientific and Clinical Constructs of Probiotics Against Neurodegenerative Diseases

Chaired by Siyaram Pandey, University of Windsor.

2:40 PM Check-in, word from our sponsor, and introduction from Chair.

2:45 PM Invited Speaker.
Faustinus Kwabena Yeboah, PhD, Chief Scientific Officer, Micillic Lda.

3:15 PM Invited Speaker.
Satya Prakash, PhD, McGill University, Montreal, QC, "Engineering the Gut Microbiome: A Novel Approach to Alzheimer's Disease and Healthy."

3:45 PM Invited Speaker.
Marie-Eve Boyte, Nutra Pharma Consulting Services Inc., Montreal, QC.

4:25 PM Closing remarks, acknowledgement by Chair, and awarding of Research Spotlight prizes.


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