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Significant Neuroprotection Achieved in Collaborative Traumatic Brain Injury Study

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Highlights:

- Lead drug candidate NYR-BI03 shows strong neuroprotective efficacy in a penetrating traumatic brain injury study, conducted in collaboration with Walter Reed Army Institute of Research (WRAIR) and UNSW Sydney.
- MRI imaging confirms statistically significant neuroprotection (p = 0.043), as assessed at UNSW Sydney.
- NYR-BI03 is currently in Phase I clinical trial, evaluating safety and tolerability. It is a first-in-class TRPC 3/6/7 blocker with a novel mechanism of action, targeting multiple high-value indications.

Nyrada Inc. (ASX:NYR), a drug discovery and development company specialising in innovative Transient Receptor Potential Canonical (TRPC) ion channel blockers, today announces positive preclinical results demonstrating the efficacy of its lead drug candidate, NYR-BI03, in preventing secondary brain injury following a penetrating traumatic brain injury (TBI). The study was conducted under Nyrada's Cooperative Research and Development Agreement (CRADA) with the Walter Reed Army Institute of Research (WRAIR).

Collaborative Traumatic Brain Injury (TBI) Study

Nyrada's collaborative study with WRAIR and UNSW Sydney evaluated the efficacy of NYR-BI03 in a rodent model of penetrating TBI, designed to replicate the severe head injuries commonly sustained by military personnel.

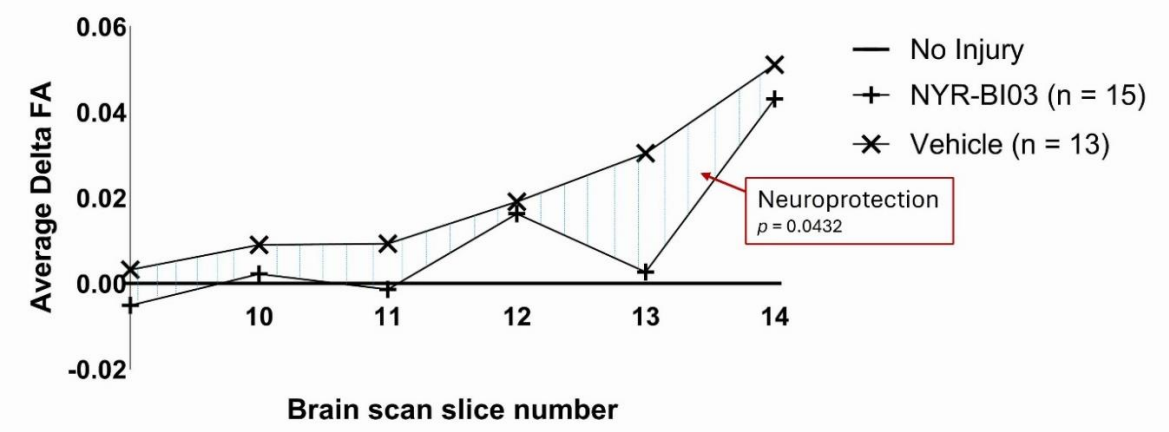
Study partner WRAIR, a world-leading military medical research institution and part of the U.S. Army, brings deep expertise in brain injury research.

Using WRAIR's well-established penetrating TBI model, the study involved 28 test animals, which received continuous intravenous infusion of either NYR-BI03 or a vehicle control, over a 48-hour period.

Consistent with Nyrada's prior preclinical stroke study, UNSW Sydney conducted high-resolution magnetic resonance imaging (MRI) to assess brain tissue integrity at its state-of-the-art small animal imaging facility. MRI analysis was conducted under blinded conditions to ensure objective and unbiased assessment of treatment effects.

The injuries produced using the WRAIR model reflected a severe level of penetrating TBI and the study demonstrated that NYR-BI03 provided a statistically significant level of neuroprotection (p = 0.043; ANOVA).

FA MRI analysis identified neuroprotection across six (6) consecutive brain scan levels spanning the region of maximum penetration by the probe.



The deviation from uninjured brain tissue integrity (delta FA) was compared between NYR-BI03 treated versus vehicle group at each scan level, where zero indicates no difference from the uninjured side.

Chair of the Scientific Advisory Board (SAB) and UNSW Scientia Professor, Gary Housley commented: "This study provides strong evidence that Nyrada's NYR-BI03 drug provided protection to the brain following severe TBI. This was determined using a new MRI approach for quantifying brain tissue integrity."

Nyrada CEO, James Bonnar commented: "TBI is a significant health issue in both civilian and military settings with no current drug treatment available. In 2023, there were close to 20,000 TBIs across the various branches of the US Military.

"We are excited to have recently taken this drug into a first-in-human safety study. These latest findings for NYR-BI03 neuroprotection in TBI build upon the earlier efficacy shown in a stroke model. This further highlights the exciting potential of this new drug target class."

Phase I Study

Nyrada remains on schedule with its Phase I study, having completed dosing of the first cohort in March 2025.

Final readouts from the trial are expected in Q3 CY2025, as planned. Regular updates will be provided as the study progresses. The trial is being conducted at Scientia Clinical Research, with Contract Research Organisation (CRO) services provided by Southern Star Research.

The trial has been registered with the US National Institutes of Health.

Patent Application

In September 2024, Nyrada filed a provisional patent application to protect its intellectual property related to TRPC channel blockers. The application seeks a 'Composition of Matter' patent, covering the chemical structures of relevant compounds. A preliminary international patent search has affirmed the novelty and inventiveness of Nyrada's TRPC-targeting claims.

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About Nyrada Inc.

Nyrada Inc. is a biotechnology company focused on the discovery and development of innovative small-molecule therapies, specifically targeting Transient Receptor Potential Canonical (TRPC) ion channels. The company's lead candidate, NYR-BI03, has shown efficacy in both neuroprotection and cardioprotection, positioning it for a first-in-human Phase I clinical trial. Nyrada Inc. (ARBN 625 401 818) is incorporated in Delaware, USA, with limited liability for its stockholders.

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