



In 50 years, NHRC has grown to become the Navy's preeminent biomedical R&D activity site for meeting the expeditionary operational medicine needs of the Navy and the Marine Corps, as well as Army and Air Force personnel. With its strategic location within the fleet concentration area of San Diego, NHRC is still uniquely positioned to respond to the biomedical research requirements of the expeditionary forces of all of the services and special operations communities.



NHRC Laboratories conduct many studies in the area of Human Sciences Research including **Five Laboratories**



Naval Health Research Center (NHRC) San Diego

Human Performance

- Fitness and Performance in extreme environments: hot, cold, high altitude



Naval Submarine Medical Research Laboratory (NSMRL)



Health, performance, habitability, and human factors issues in submarines



Naval Aerospace Medical Research Laboratory (NAMRL)



Pharmaceutical safety and efficacy for military operations



Directed Energy Bio-Effects (DEBL) and Environmental Health Effects (EHEL) Laboratories



Environmental Health Effects Laboratory Major Research Areas:

- Formulate occupational and environmental health-hazard evaluations and risk assessments
- Determine neuro-behavioral effects of toxic exposures

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Производитель
Дигидрокверцетин (ДГК)
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Вопросы по материалу направлять на: E-mail: russia@vitalavita.com



Counter Parties Involved	
Vendor's US Agent / Applicator	Berg Imports LLC
Vendor	Larch Vita US Inc. / Life Vita UK Ltd.
Contractor	Nutra Manufacturing Inc.
Analytical Research	Covance Inc. / NIS Labs Inc.
Assistance	ABBOTS Laboratories Inc.

Project: Multiple stage project evaluation the antioxidant - DHQ (dihydroquercetin)

Project name: Flavit Dihydroquercetin, code 236256 Covance

Project ID: 20090714-0025-NUTRA / CIRM2649

*The information expressed in notification is not for public and do not reflect official policy or position of the Department of the Navy, Department of Defense, or the U.S. Government in respect of investigations. **Not approved for public release; distribution limited.***



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Project purposes:

- Warfighter Performance, including:

- * Environmental Stress Studies
- * Physical Stress, Load and Impact
- * Physical Fitness and Weight Standards
- * Cognitive Neuroscience of Stress Performance
- * Computer Assisted Rehabilitation ENvironment (CAREN)

- Behavioral Science and Epidemiology

- * Posttraumatic Stress Disorder (PTSD)/Traumatic Brain Injury (TBI) Studies
 - Respiratory Disease**
- * Emerging Infectious System (GEIS) - Surveillance of all DoD Recruit Training Sites
 - * Advanced Diagnostic Technologies Development/Testing
 - * Outbreak Investigations
 - * Adenovirus Clinical Trial
 - * A/H1N1 Confirmatory Laboratory
 - * Safety Study



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Pre-stage verification: *Department of Human Performance, Naval Health Research Center, San Diego, California 92152, USA.*

Leaded by: Donald E. Roberts, PhD and W. Y. Ensign Jr, PhD.

The study is examining the effectiveness of an antioxidant dihydroquercetin (DHQ): sample **CIRM2649/D89427** - Flavit 2 (ORAC VALUE - 30,900 umol TE/g, Covance ORAC_S:4), to reduce oxidative stress in US Marines undergoing 24 days of cold-weather field training at a moderate altitude.

Parameters:

Sixty physically active male volunteers (ages 18-40) are randomly assigned to a treatment (antioxidant) group ($n = 31$) or a control (placebo) group ($n = 29$). Breath pentane (BP), serum lipid hydroperoxides (LPO), urine malondialdehyde (MDA), urine 8-hydroxy deoxyguanosine (8-OHdG), ferric-reducing ability of plasma (FRAP), and serum and urine oxygen radical absorption capacity (ORAC) are measured as indicators of oxidative stress and antioxidant status. *Urine samples: at days 0, 12, and 24.*

Serum and breath samples: on days 0 and 24.

Stage-to-Stage program: The Center enjoys an active liaison with both the Balboa Naval Hospital and the Pacific Fleet, allowing the staff to conduct research both in the laboratory and in the field, aboard Naval vessels and at other Naval facilities.

Performance enhancement research under extreme environments: Flavit Dihydroquercetin, code 236256 Covance

Current efforts involve laboratory and field studies of the effects of sleep deprivation, continuous heavy physical work, heat and cold stress, fatigue, jet-lag, and emotional reactions to stress on biochemical and musculoskeletal systems, and on cognitive and physical performance, as measured by state-of-the-art technologies. The goal is to develop methods for measuring and enhancing human performance in extreme environments.



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Physical fitness and job performance: Flavit Dihydroquercetin, code 236256 Covance

This research focuses on exercise physiology; specifically, the relationships between physical fitness and job performance, and the various underlying factors that are involved (e.g. biochemical and life-style variables, and environmental tolerance).

Epidemiology and disease surveillance in Naval personnel: Flavit Dihydroquercetin, code 236256 Covance

Special topics of interest are the occurrence of human immuno-deficiency virus (HIV); occupational and environmental associations with disease; the etiology, diagnosis, treatment, and disposition of psychiatric disorders; and demographic, personality and life-style risk factors in chronic disease.

Behavioral and psychological responses during sustained performance: Flavit Dihydroquercetin, code 236256 Covance

This investigation focuses on evaluating levels of performance during stressed states due to sleep loss, fatigue, and variations in work/sleep schedules, and also assesses the recuperative effects of sleep in relation to length of sleep and time of day when sleep occurs. The goal is to develop work/sleep schedules that maintain optimum performance during sustained military operations.

Neuroelectric and neuromagnetic assessment and cognitive performance: Flavit Dihydroquercetin, code 236256 Covance

Studies primarily utilize electrophysiological methods to evaluate changes in attentional resources and decision-making processes. The goal is to utilize EEG spectral analysis, evoked potentials, and the steady-state response as indicators of changes in performance. Current topics of interest include investigating the cognitive performance effects of increased gravitational force and multimodal information processing. This methodology is also applied to clinical studies investigating cognitive performance in recovering alcoholics and schizophrenics.

Psychopharmacological techniques to enhance human performance: Flavit Dihydroquercetin, code 236256 Covance

Laboratory and field studies are conducted to evaluate the effects of pharmacologic agents on sleep electrophysiology, daytime arousal level, and cognitive psychomotor performance. Agents of interest include certain dietary constituents i.e. 20090714-0025-NUTRA / CIRM2649. The goals of these studies include developing psychopharmacological techniques to augment and maintain human effectiveness during sleep loss and after transport across time zones.



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