# Immunocal and BRAIN HEALTH the Next Frontier

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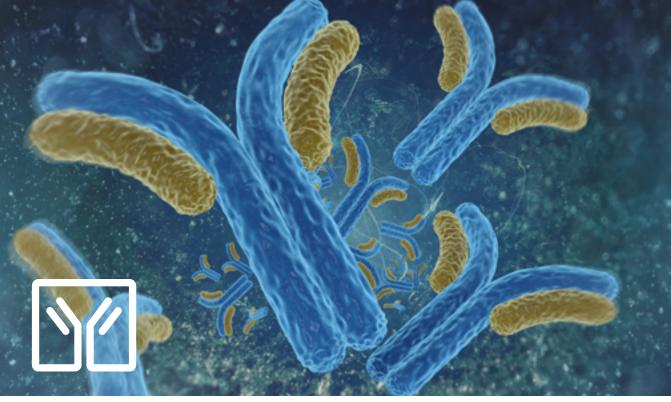
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Dedicated to the memory of Dr. Gustavo Bounous, this is the fascinating story of the research that fuels this iconic brand and a window into the next phase of our work on brain health





Immunotec's logo represents an "antibody", which is a large, Y-shaped protein used by the immune system to identify and neutralize pathogens such as bacteria and viruses.

## The Science of Living Better™

What Immunotec means by "The Science of Living Better" is providing you the products, information, and tools you need to live better in many ways. Underpinning this statement is our goal of using research to make the science of Immunocal stronger every year. Science is our DNA. It's where we started: as a research company.

#### Research drove Immunotec's success to where it is today.

At the beginning of the 1970s, under the direction of Gustavo Bounous, MD, (FRCSC), a team of researchers from the Faculty of Medicine at Montreal's McGill University was studying proteins that might have an effect on the immune system. This work led to the surprising discovery that a specific undenatured whey protein helped to sustain optimal glutathione levels. This ultimately led to production of a high-quality bioactive protein that was given the name Immunocal.

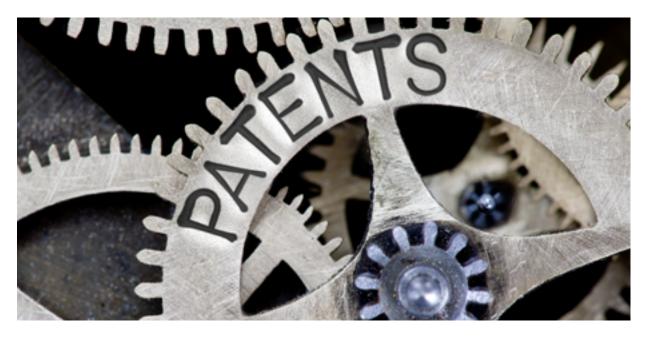
Our research was supported in part by the Medical Research Council of Canada and the National Institutes of Health in the United States. Subsequent independent research centers worldwide, notably in Germany, Japan, Australia, France, the United States and of course, Canada, expanded on our findings.

For over 40 years, Immunotec has contributed significantly to the wealth of scientific literature on the role of glutathione and **immune function**, later examining muscle strength and **physical performance**, it has now entered into the new and critically important realm of **brain health**.

# What's in a patent?

Patents are much more than just a means of protecting intellectual property. The acquisition of scientific patents, is a reflection of a company's commitment to research, development, and innovative thinking. Immunotec has been the first to bring forth multiple concepts and fresh thinking through their many patents. Our forty-plus years of research has stimulated many world-class researchers to pursue aspects of glutathione enhancement. This huge bank of intellectual property can be found online.

### Three brain patents are in-progress<sup>\*</sup> and there's more to come!



## **Approved claims**

In Canada, two claims have been granted for Immunocal to-date and we're pursuing more!

#### Natural Product Number (NPN) 80004370:

- Describes Immunocal as a glutathione precursor for the maintenance of a strong immune system
- Describes Immunocal in regards to increasing muscle strength and performance



- \* Compositions and Methods for Treatment of Autistic Spectrum Disorder
  - Compositions for Restoring Gene Expression in Neuropsychiatric or Neurodegenerative Disorders
  - Compositions for Increasing Resilience to Traumatic Brain Injury

## Our next frontier: the brain



"There exists nowhere in the physical universe a more sophisticated piece of equipment than the human brain. Yet just like the simplest cell, the brain could not exist an hour without a steady source of glutathione."

Jimmy Gutman MD, glutathione authority

Can Immunocal impact brain health? If so, how does it do it? And what brain issues can be addressed? These were some of the critical questions we asked ourselves over a decade ago. We had already asked and answered questions about immune health, physical performance, and other aspects of wellness, but the "brain" question remained unanswered.

Borrowing from the research methods and philosophy used by Dr. Bounous and Dr. Kongshavn some forty years ago, the Immunotec team set up important collaborations at institutions in the USA and Canada to test Immunocal's impact in multiple experimental models of brain health.

The most basic and important finding to come from this plethora of research was that Immunocal improved cerebral (brain) glutathione. Based on this key information, a wide spectrum of possibilities opened up for us. A quick look at clinical and experimental brain studies published gives the reader some insight into how major an impact this strategy can potentially have on our health.

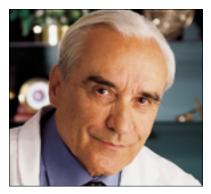
# Clinical and experimental brain studies published

RECENT PATENTS IN CNS DRUG DISCOVERY, 7(3):230-5, 2012 JOURNAL OF THE NEUROLOGICAL SCIENCES, 367:162-170, 2016 FREE RADICAL BIOLOGY MEDICINE, 110:162-175, 2017 RECENT PATENTS IN CNS DRUG DISCOVERY, 7(1), 2012 JOURNAL OF THE AMERICAN NUTRITIONAL ASSOCIATION, 11(1), 2008

### MORE studies are underway! Stay tuned!



### Past major researchers: a history of Firsts



Dr. Gustavo Bounous Professor McGill University Discoverer of Immunocal

**First** to discover and isolate natural glutathione precursors in whey protein. **First** to use these proteins to improve immune function in animals and later humans.



**Dr. Patricia Kongshavn** Professor **McGill University** Co-discoverer of Immunocal

The **first** chapter in the **first** book on clinical immunology was penned by Dr. Kongshavn. Many refer to her as the "great grandmother" of clinical immunology.



**Dr. Wulf Dröge** Professor **University of Heidelberg** Inventor of Immunocal Platinum

**First** to discover the effect of glutathione on the immune response in a living animal. **First** to discover that AIDS patients were glutathione deficient.

### Our current brain trust

Immunotec has had the honor of working with a long list of world-renowned researchers. The list includes Nobel Prize laureates, eminent immunologists, thought leaders, and other dominant frontrunners in their fields. Below are three current influential scientists currently working on brain health research on Immunocal.



Hyman M. Schipper MD PhD Professor McGill University Neuroscience and Medicine

Dr. Schipper is a leading researcher in normal and abnormal brain aging with a strong interest in cognitive impairment.



**Daniel Linseman PhD** Professor **University of Denver** Clinical Pharmacology and Toxicology

Dr. Linseman's laboratory is focused on the mechanisms of brain cell damage in neurodegenerative diseases and traumatic brain injury.



Ana Castejon PhD Professor Nova Southeastern University Pharmaceutical Sciences

Ana Maria Castejon is a principal investigator on the role of glutathione in autism. She has presented over 50 international conferences.

## The highest standard of research study

How important is a study? Well it depends on a few things. Who wrote it? Where was it published? Was it a case report or a study looking at hundreds of individuals? Every research study has its own strengths and weaknesses, but any scientist will tell you that the gold standard in medical research is what's called a "randomized, double-blind, placebo-controlled, statistically, significant, human study". Many doctors would not even consider a treatment if it did not have this highest level of research done.

## Just SOME of our clinical studies

Journal of Nutrition, Health and Aging, 19(5):531-6, 2015 Antioxidants & Redox Signaling, 10(2):395-402, 2008 Journal of Applied Physiology (4):1381-1385, 1999 Journal of Clinical and Aesthetic Dermatology, 6(10): 23-26, 2013 Journal of Gastroenterology & Hepatology, 24:1045-1050, 2009 Medicine & Science in Sports & Exercise, 37(9):1468-1473, 2005 Journal of Nutrition, 112:1747-1755, 1982

### Many natural supplement companies say they are "science-based". What does this mean?

A real science-based company should have the following:

- Research performed on their own product
- Research led by leaders in their respective fields
- Research from major universities
- Research published in high-impact journals
- Research that is truly novel
- Critical: randomized placebo-controlled research in humans

# Some numbers really do count!

Immunotec research studies and articles: 16 theoretical or review papers 10 laboratory (in vitro) studies 12 animal (in vivo) studies 10 other human studies 5 gold standard human clinical trials 53 publications and we're still counting!

53 publications and we're still counting! See our list of studies online.



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### CANADIAN VERSION