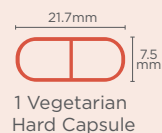


# ProbioCalm

An innovative and comprehensive formula to support emotional and mental wellbeing, healthy mood balance and nervous system health



## OVERVIEW

A unique product combining the nervine herbs Saffron and Lemon Balm with *Bifidobacterium longum* 1714 ProbioBrain™, an innovative probiotic strain to help support emotional & mental wellbeing, healthy mood balance and nervous system health.

- > *B. longum* 1714 ProbioBrain™ helps to support a healthy stress response in the body.
- > Contains the proprietary Saffron extract affron®, clinically trialed, and shown to calm the mind, maintain mood balance and support emotional wellbeing.
- > Contains Lemon Balm traditionally used in Western Herbal Medicine to relieve nervous tension and reduce the symptoms of stress.
- > Vegan friendly, dairy and soy free.
- > One capsule daily for ease of use.

Active Ingredients (per vegetarian hard capsule)	
<i>Bifidobacterium longum</i> 1714 (ProbioBrain™)	2 billion cfu
<i>Crocus sativus</i> (affron®) ext. dry conc.	28 mg
From dry stigma	84 mg
Standardised to 3.5% Leptocrosalides	
<i>Melissa officinalis</i> ext. dry conc.	300 mg
From dry leaf	3 g

<b>Pack Size</b>	30
<b>Servings Per Pack</b>	30 serves

Excipients
Colloidal anhydrous silica, dextrin, magnesium stearate, maltodextrin, microcrystalline cellulose, hypromellose.

Directions for Use
Adults: Take 1 capsule daily with a large glass of water, or as directed by your healthcare professional.

Allergen Information
No added: gluten, dairy, soy, lactose, nuts.

Prescribing Information:
ProbioCalm contains the live organism <i>Bifidobacterium longum</i> . Taking this product simultaneously with antibiotic medication may kill a significant number of the organisms. Advise patients to separate administration of antibiotics and ProbioCalm by at least two hours.
Saffron and Lemon balm have sedative properties. Advise your patients that this product may be best taken at bedtime, and not to drive or operate heavy machinery after taking this product.

Warnings
If symptoms persist, talk to your health professional.

Designed and packed in Australia from imported ingredients.



No Added Gluten



No Added Dairy



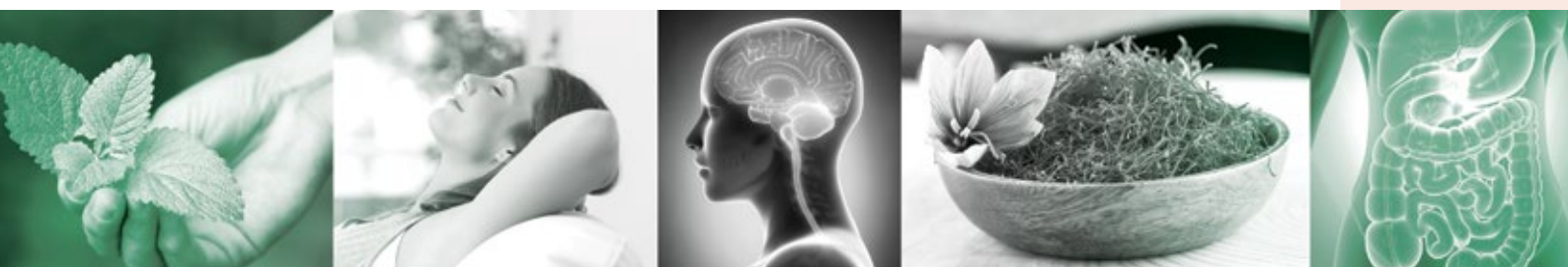
No Added Soy



No Added Nuts



Vegan Friendly



## EDUCATION

### *Bifidobacterium longum* 1714 ProbioBrain™

Due to the discovery that dysbiosis can affect the gut-brain axis (GBA), there is an increasing amount of interest in how probiotic therapy affects the nervous system. The microbiota is able to impact interactions that occur between the emotional and cognitive centres of the brain and gastrointestinal function.<sup>1</sup>

The intestinal microbiota has a local and peripheral interactive relationship with the central, enteric and autonomic nervous systems as well as the HPA axis through immune, neuroendocrine, microbial and metabolic signalling pathways.<sup>1,2,7</sup> Bacteria can signal through these pathways impacting behaviour and brain activity and affect changes in central nervous system matrices involved in emotional or cognitive responses, neuroinflammation, neurodevelopment and neuroendocrine stress responses.<sup>4,7</sup>

It is thought that disordered GBA functioning results from altered motility and toxin secretion, visceral hypersensitivity and alterations in the functioning of the entero-endocrine and immune system. The fact that the microbiome is involved in the maintenance of these aspects of health, and also that specific patterns of dysbiosis have been found in some conditions affecting the nervous system suggests a potentially unique contributing role of probiotic therapy, and research is progressing into specific strain therapy. Collectively, these probiotic strains have been named “Psychobiotics”, and are defined as “live micro-organisms that convey a benefit upon the host’s mental health when consumed in adequate quantities”.<sup>1,3</sup>

As mentioned above, there is surging interest in the possibility that positively manipulating the gut microbiome may beneficially impact the brain and nervous system. As a result, some innovative research on strain specific probiotics has come about. One of the most impressive psychobiotic strains studied so far is *Bifidobacterium longum* strain 1714 ProbioBrain™.

Preclinical and clinical studies have highlighted that ProbioBrain™ helps to support a healthy response to stress in both the short and long term by supporting cognitive performance, mood, memory and stress. It has been shown to decrease stress-related behaviours, maintain optimal cognitive function in stressful situations and create a sense of vitality in the resting state.<sup>2,3,5,6</sup>

Mechanisms behind the effects of *B. longum* 1714 ProbioBrain™ include modulation of neural responses by increasing theta band power in parts of the frontal and cingulate cortexes and decreasing beta-2 band power in the fusiform gyrus, bilateral hippocampus, parts of the bilateral middle temporal cortex and the left cerebellum.<sup>2</sup>

### *Crocus sativus* (saffron)

Saffron exerts serotonergic, anti-inflammatory, antioxidant, neuro-endocrine (dampens HPA response to stress), neuroprotective and soporific activity.<sup>8,10,11,12,14</sup>

The carotenoid components crocin and safranal are responsible for Saffron’s effects on mood.<sup>15</sup> Crocin is involved in maintaining homeostasis in the nervous system through its ability to bind to enzymes involved in neurotransmission, ATP integrity and redox processes. It also has binding affinity for membrane transporters and structural proteins in the nervous system.<sup>16,17</sup>

Both safranal and crocin are involved in the uptake inhibition of dopamine, noradrenalin, and serotonin (antagonises 5-HCT2C receptors).<sup>16,8</sup> Furthermore, crocin can interact with the cholinergic, GABA and opioid systems. It can also increase brain glutamate levels in a dose-dependent manner and interact with NMDA receptors and the glutamatergic system.<sup>16,18</sup> Saffron is also able to increase cAMP response element binding protein (CREB) and brain derived neurotropic factor (BDNF) providing neuroprotective effects.<sup>8</sup>

Further to the above activity, Saffron’s antioxidant and anti-inflammatory effects seem to be the prime drivers of its influence on the nervous system. Crocin in particular has displayed protective activity in the nervous system, combatting the oxidative effects of chronic stress.<sup>19</sup>

Mood associated disorders have been linked to increased levels of oxidative stress and reduced antioxidant capacity. Enzymes such as superoxide dismutase (SOD), catalyse (CAT) and glutathione peroxidase (GPX) can all be diminished whilst markers of oxidative stress such as malondialdehyde (MDA) can become more noticeable. Oxidative stress in the nervous system can influence neurodegeneration, inflammation and neurotransmitter imbalance.<sup>8</sup>

The proprietary Saffron extract affron® has been clinically trialled and found to be effective for helping to support a healthy mood balance and maintaining healthy emotional and mental wellbeing.<sup>8,9,13</sup>

### *Melissa officinalis* (Lemon Balm)

One of the staple inclusions in a herbalist’s dispensary is Lemon Balm. Being noted in traditional texts as an “effective drink to be taken after a busy day and last thing at night”<sup>20</sup>, Lemon balm has been used traditionally in western herbal medicine as a soothing relaxant to calm and relieve excessive unrest, nervous tension and the symptoms of mental stress.

**References supplied on request.**