

# INTRODUCING BIO-KULT PROBIOTICS



**Bio-Kult®**  
The experts in probiotics

# PROTEXIN: EXPERTS IN PROBIOTICS

Under the brand name Protexin, Probiotics International Limited produce innovative, research based, high quality probiotic products for humans and animals.

Nature provides ideal sources for effective healthcare solutions; applied research can harness these solutions. We work closely with medical and research professionals

around the world on a range of pioneering programs to ensure we are at the forefront of research.

All our products are manufactured at our cGMP accredited, purpose-built facility in Somerset, UK; enabling us to stay in complete control of our quality standards.

## Supplements specifically formulated for digestive and immune systems:

### Bio-Kult Infantis

- ★ Multi-strain probiotic and prebiotic with Omega 3 and Vitamin D<sub>3</sub>
- ★ For infants, toddlers and young children

### Bio-Kult

- ★ Multi-strain probiotic
- ★ To support digestive and immune systems

### Bio-Kult Candéa

- ★ Probiotic supplement with added garlic and grapefruit extract
- ★ To help strengthen natural defences against yeast overgrowth

### Bio-Kult Pro-Cyan

- ★ Advanced triple action formula containing cranberry extract, scientifically selected probiotic strains and Vitamin A
- ★ Contributes to the normal function of the immune system and maintenance of the urinary tract

## MICROFLORA AND THE BENEFITS OF PROBIOTICS

The trillions of microflora in the human gastrointestinal tract play an essential role in supporting and maintaining strong immune and digestive systems, so having the optimum balance of these beneficial bacteria is important throughout life.

At birth the infant's gut flora is influenced by that of the mother and the environment around them. Throughout life a number of factors can compromise this balance, including antibiotic therapy, infection, stress, travel or a period of unhealthy nutrition or lifestyle. The aging process is often associated with a change in gastrointestinal tract function, immunity and a disturbed microflora balance. An effective solution for all the family is to supplement the microflora by taking a probiotic to help restore the balance.


## CONDITIONS TO CONSIDER

An imbalance of the gut microflora can be associated with a range of conditions including:


- ★ Irritable Bowel Syndrome (IBS)<sup>1</sup>
- ★ Traveller's stomach<sup>2</sup>
- ★ Antibiotic Associated Diarrhoea (AAD)<sup>3</sup>
- ★ Inflammatory bowel disease<sup>4</sup>
- ★ Leaky gut<sup>5</sup>
- ★ Lactose intolerance<sup>6</sup>
- ★ Atopic dermatitis<sup>7</sup>
- ★ Autism<sup>8</sup>
- ★ Anxiety and depression<sup>9</sup>
- ★ Autoimmune conditions<sup>10</sup>

# PROBIOTICS AT WORK


## KEY:

-  Beneficial bacteria

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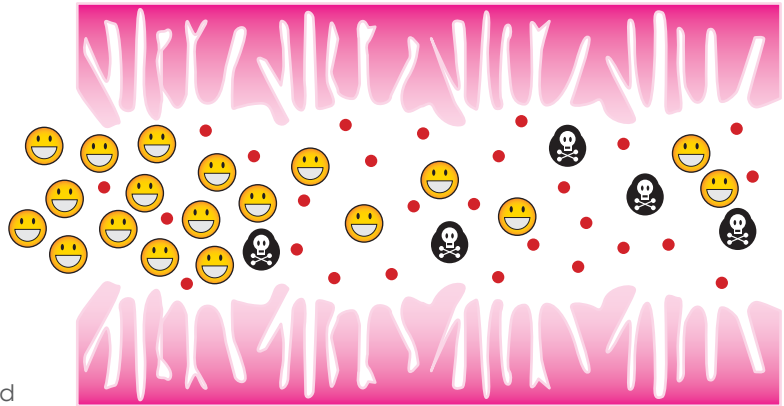
-  Pathogenic (bad) bacteria

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-  Nutrients

The use of probiotics is supported by their potential to:<sup>11</sup>

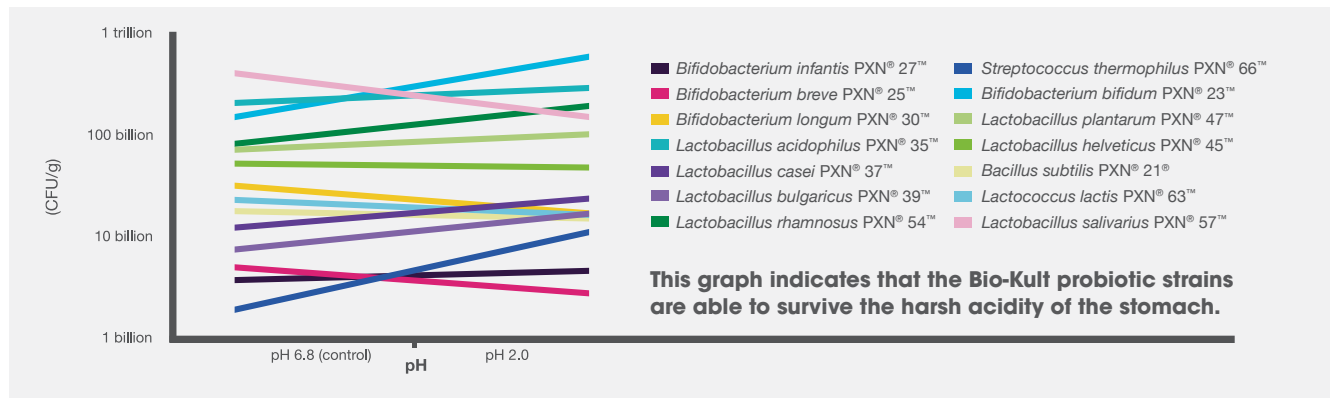
- \* Modify the composition of gut microbiota;
- \* Enhance resistance to potential pathogens, via competitive adherence to the mucosa and epithelium; competition for nutrients and the production of anti-microbial substances;
- \* Strengthen gut epithelial barrier function; and
- \* Modulate the immune system to convey an advantage to the host.



## ACID STABILITY OF BIO-KULT'S PROBIOTIC STRAINS<sup>12</sup>

The beneficial bacteria in the Bio-Kult range are encapsulated during the freeze drying (lyophilisation) process, aiding protection from the harsh acid

environment of the stomach. The graph below shows *In vitro* unbuffered growth at pH 2.0 for two hours.



# BIO-KULT INFANTIS: FOR INFANTS, TODDLERS AND YOUNG CHILDREN

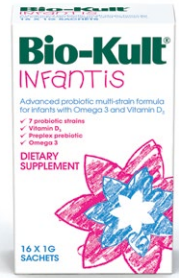
## THE INFANT GUT

Having the optimum balance of microflora is important for everyone, but it is especially important from birth to give the infant the best possible start in life. At birth, an infant's gut flora is obtained from the mother and the environment around them. Breast milk is a natural source of continuous bacteria to the infant's gut,<sup>13</sup> with bifidobacteria understood to be the predominant species in breast fed infants.<sup>14</sup>

Over 70% of immune cells are located within the gut<sup>15</sup> and their development in infants is profoundly influenced by the gut flora<sup>13,14</sup>. These bacteria offer a degree of protection to the infant against infection and support a protective gut lining.<sup>13</sup> The incidence of allergic diseases such as eczema, asthma, hay fever and colic are ever increasing in early life and are associated with an altered or less diverse gut microflora, an impaired gut lining and a malfunction of the immune system.<sup>14</sup> A balanced gut flora is necessary to assist in the efficient digestion of milk and later the introduction of solids, regular healthy bowel movements and a strong protective gut lining. There is a wide body of evidence emerging to support the supplementation of other nutrients, for the optimal growth and development of the newborn, such as Vitamin D<sub>3</sub> and Omega 3 fatty acids.

## BIO-KULT INFANTIS

Bio-Kult Infantis is a scientifically developed, advanced formula for babies, toddlers and young children. Each sachet contains 7 strains of live bacteria plus DHA and EPA making it high in Omega 3 fatty acids. Bio-Kult Infantis also includes Preplex® prebiotics (FOS + gum acacia) to selectively stimulate the growth of microorganisms. Vitamin D<sub>3</sub> (natural source of Vitamin D) is also added to contribute to the normal function of the immune system, as well as regulating a healthy inflammatory response. This formulation makes Bio-Kult Infantis the ideal choice for your child.

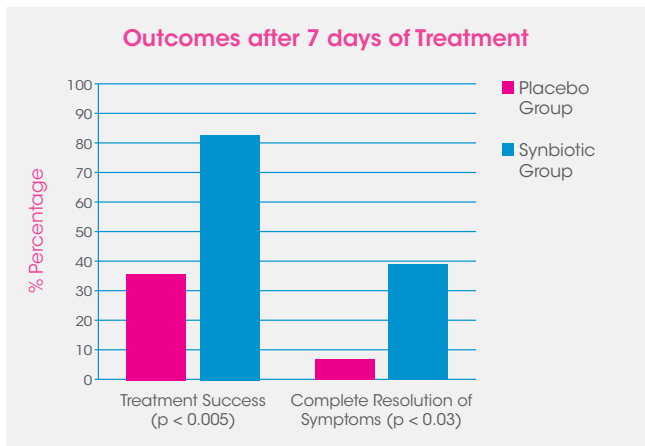


## RESEARCH EVIDENCE

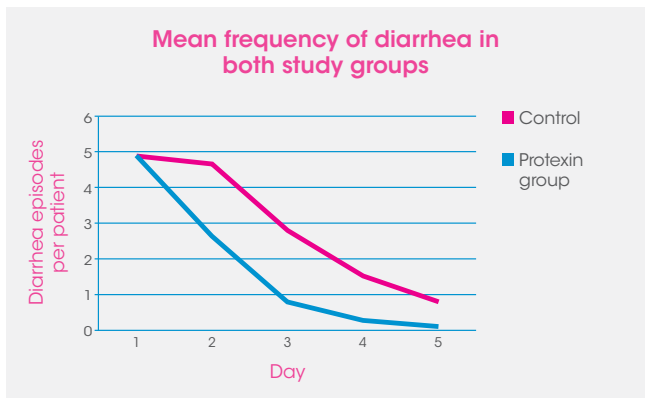
### Probiotics

Research shows that probiotics can positively influence the infant's gut flora balance and developing immune system.<sup>16</sup> The Bio-Kult Infantis 7 strain formula includes two of the most predominant infant specific species *Bifidobacterium breve* and *Bifidobacterium infantis*.<sup>17</sup> The specific synbiotic blend of 7 strains of live bacteria and a prebiotic within Bio-Kult Infantis have demonstrated positive outcomes in a number of clinical trials:

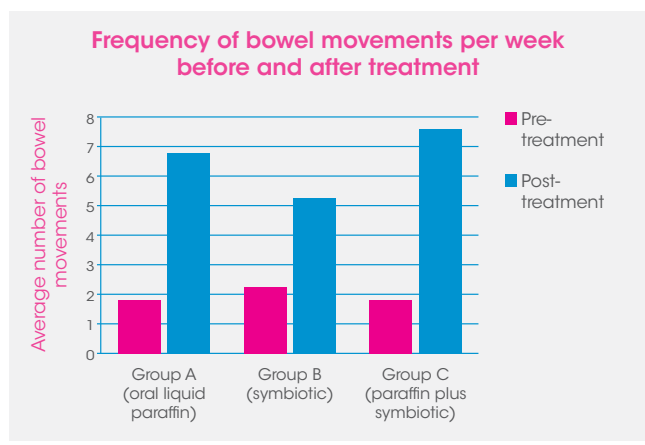
**EFFECTIVELY MANAGED SYMPTOMS OF INFANTILE COLIC WITHOUT ANY REPORTED SIDE EFFECTS IN INFANTS AGED 2 WEEKS TO 4 MONTHS<sup>18</sup>**



**REDUCED DIARRHEA, IMPROVED STOOL CONSISTENCY AND SHORTENED HOSPITAL STAY IN INFANTS 2 MONTHS TO 2 YEARS OLD WITH ACUTE GASTROENTERITIS<sup>19</sup>**



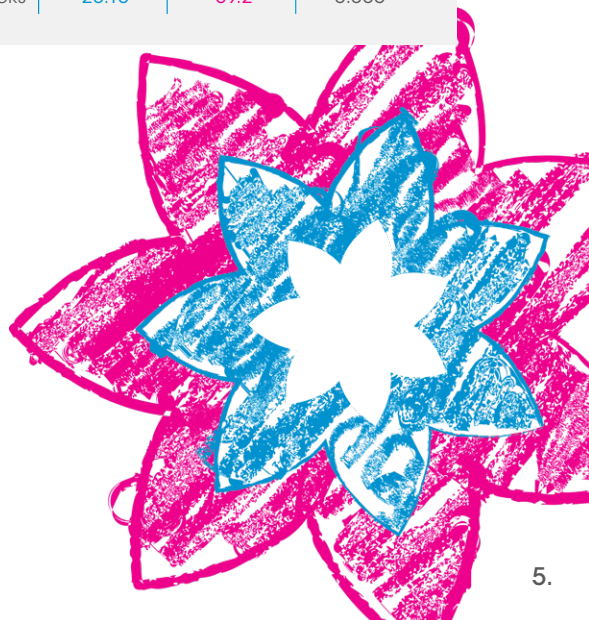
**IMPROVED SYMPTOMS OF CONSTIPATION IN 97 CHILDREN AGED 4-12 YEARS<sup>20</sup>**



**IMPROVED THE SEVERITY OF ATOPIC DERMATITIS (ECZEMA) IN 40 INFANTS AND CHILDREN AGED 3 MONTHS TO 7 YEARS<sup>7</sup>**

**Mean Reduction in SCORAD Index (The Severity Scoring of Atopic Dermatitis; max score = 103)**

	Control	Probiotic	P value
Baseline - 4 weeks	-11.06	-29.51	0.001
Baseline - 8 weeks	-20.10	-39.2	0.005



### Omega 3

Bio-Kult Infantis is high in Omega 3 fatty acids. Evidence suggests that Omega 3 polyunsaturated fatty acids play an important role in early brain development and cognitive function.<sup>21</sup> Research also suggests they have anti-inflammatory effects on the immature and developing infant immune system<sup>22</sup>. Studies indicate that direct fish oil supplementation can significantly elevate Omega 3 blood levels in infants.<sup>23</sup>

### Vitamin D<sub>3</sub>

Vitamin D contributes to the normal function of the immune system and a healthy inflammatory response, and is needed for the normal growth and development of bone in children. Early research is also indicating that Vitamin D's immune properties might be important in shaping the early gut microbiota.<sup>14</sup> Fat soluble Vitamin D, commonly referred to as 'the sunshine vitamin', is synthesized in the skin after exposure to UV rays. Several studies in pregnant women and early childhood suggest that Vitamin D deficiency is now common.<sup>24</sup> Supplementation is therefore, now advised<sup>24</sup> and has been shown to be effective to increase blood levels of this vitamin<sup>25</sup>. Vitamin D<sub>2</sub> (ergocalciferol) is the synthetic form, whereas Vitamin D<sub>3</sub> (cholecalciferol) is the natural form made in the body and shown to be more efficient at increasing blood levels.<sup>26</sup>

### Preplex®

Preplex® is a dual source prebiotic containing FOS (fructooligosaccharide) and gum acacia. Prebiotics are selectively fermented by beneficial bacteria in the gut to help their growth and are naturally present in breast milk.<sup>13</sup> Gum acacia has been shown to be most effective alongside probiotics opposed to taken alone, and used together with FOS has shown improvement of diarrhea in infants<sup>27</sup> as well as an increase in bifidobacteria levels<sup>28</sup>. FOS has shown further evidence of immune support and a reduction in atopic diseases.<sup>29</sup>

### USAGE GUIDELINES

★ ½ - 1 sachet once a day mixed with milk, water or food (start with ¼ sachet for young babies)

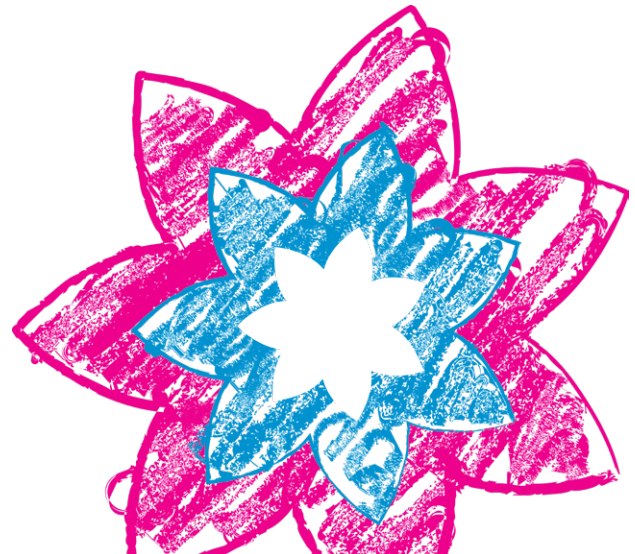
\* If you are taking any medications or have any medical conditions, please consult your doctor before taking any nutritional food supplement.

### EACH BIO-KULT INFANTIS SACHET CONTAINS:

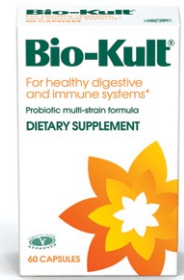
DHA & EPA	1mg
Vitamin D <sub>3</sub>	2.5mcg (100iu) (50% RDA)
Preplex® (FOS & gum acacia)	
<i>Lactobacillus casei</i> PXN® 37™	
<i>Lactobacillus rhamnosus</i> PXN® 54™	
<i>Streptococcus thermophilus</i> PXN® 66™	
<i>Lactobacillus acidophilus</i> PXN® 35™	
<i>Bifidobacterium breve</i> PXN® 25™	
<i>Bifidobacterium infantis</i> PXN® 27™	
<i>Lactobacillus bulgaricus</i> PXN® 39™	

**Total viable count** 1 x 10<sup>9</sup> CFU (1 billion)

This concentration is guaranteed to the end of the 2 year shelf life



# BIO-KULT ADVANCED MULTI-STRAIN FORMULA: THE NATURAL POWER TO MAINTAIN HEALTHY DIGESTIVE AND IMMUNE SYSTEMS



Bio-Kult Advanced is a unique multi-strain probiotic with 14 strains of live beneficial bacteria.

The different mechanisms of action and benefits of probiotics are strain specific. A combination of multiple strains appear to offer a wider range of protection when compared to the individual strains in isolation.<sup>30</sup> Studies have shown that multi-strains appear to work synergistically together, increasing each other's

effectiveness.<sup>30</sup> Different species also inhabit different parts of the digestive tract, so having more diversity of species may benefit a wider range of conditions (the more diverse an ecological system is the more robust it tends to be in the face of insults). Multi-strains also more accurately reflect our natural exposure to bacteria through fermented foods and the environment.

BIO-KULT

## THE NATURAL POWER OF 14

The diagram shows the main location for each genera of probiotic included in Bio-Kult.

### LACTOBACILLUS spp. – 7 strains

- ✦ Effective competitive exclusion of pathogenic bacteria
- ✦ Enhances natural immune system

### LACTOCOCCUS spp.

- ✦ Helps improve intestinal immunity
- ✦ Suppress the growth of harmful bacteria

### STREPTOCOCCUS spp.

- ✦ Works with *L. bulgaricus* to produce lactase – aiding lactose intolerant sufferers
- ✦ Enhances the immune system

### BIFIDOBACTERIUM spp. – 4 strains

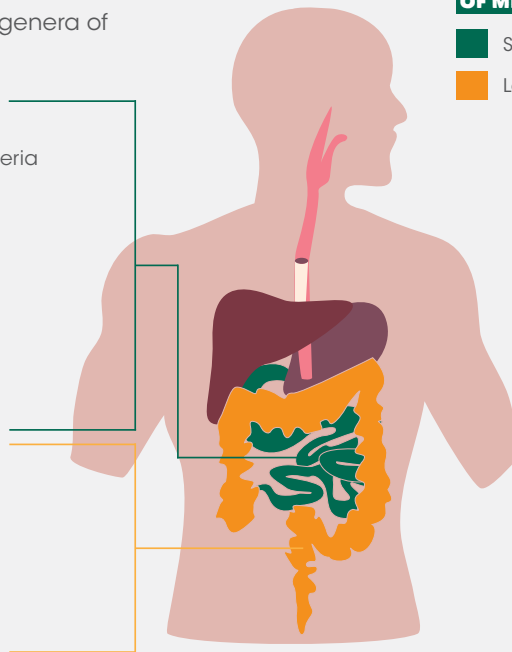
- ✦ Aids digestive transit
- ✦ Production of B vitamins

### BACILLUS spp.

- ✦ Also stimulates growth of *Lactobacillus* spp.
- ✦ A normal inhabitant of the human gut microflora

## COLONISATION LOCATIONS OF MICROFLORA

- Small intestine
- Large intestine



The Bio-Kult strains have shown significant antimicrobial activity,<sup>31</sup> good colonization properties,<sup>31</sup> and an ability to stimulate the innate immune system<sup>2</sup>. A number of successful clinical trials have been conducted using some of the Bio-Kult strains including those in constipation,<sup>33</sup> diarrhea,<sup>19</sup> intestinal inflammation,<sup>34</sup> abdominal cramps,<sup>33</sup> antibiotic associated diarrhea (AAD),<sup>35</sup> eczema,<sup>7</sup> etc.

Bio-Kult Advanced is popular for;

- ★ Keeping the stomach settled while away on holiday
- ★ Replenishing the good bacteria that antibiotics can strip away and reducing side effects
- ★ For any conditions where the gut microflora may be imbalanced

### BIO-KULT CONTAINS:

*Bacillus subtilis* PXN® 21®  
*Bifidobacterium bifidum* PXN® 23™  
*Bifidobacterium breve* PXN® 25™  
*Bifidobacterium infantis* PXN® 27™  
*Bifidobacterium longum* PXN® 30™  
*Lactobacillus acidophilus* PXN® 35™  
*Lactobacillus delbrueckii ssp.bulgaricus* PXN® 39™  
*Lactobacillus casei* PXN® 37™  
*Lactobacillus plantarum* PXN® 47™  
*Lactobacillus rhamnosus* PXN® 54™  
*Lactobacillus helveticus* PXN® 45™  
*Lactobacillus salivarius* PXN® 57™  
*Lactococcus lactis ssp. lactis* PXN® 63™  
*Streptococcus thermophilus* PXN® 66™

**Total viable count** 2 x 10<sup>9</sup> CFU/capsule (2 billion), 1 x 10<sup>10</sup> CFU/g (10 billion)

This concentration is guaranteed to the end of the 2 year shelf life.

Approved by the Vegetarian Society

### USAGE GUIDELINES\*

- ★ 1-2 capsules once or twice daily with food
- ★ Children under 12, half adult dose

\* If you are taking any medications or have any medical conditions, please consult your doctor before taking any nutritional food supplement.



# BIO-KULT CANDÉA: STRENGTHENING THE BODY'S NATURAL DEFENSES

## CANDIDA, CANDIDIASIS AND WHAT CAUSES IT

Yeasts, mainly *Candida* species, are present in the gut of around 70% of healthy adults,<sup>36</sup> and are normally harmless. However, where there are disturbances in the host's defense systems, such as an imbalance in the intestinal bacteria, the gut-associated immune system or the mucosa itself, it can become opportunistic changing to an invasive fungus.<sup>37</sup> This can cause candidiasis, where the hyphae attach to the intestinal and vaginal wall, destroying tissues and creating bio-films.<sup>36</sup>

### SYMPTOMS

Men as well as women can suffer from *Candida* overgrowth. Symptoms can be wide ranging. Although not exclusive to *Candida*, commonly reported symptoms include:

- \* Genital and oral thrush
- \* Food intolerances
- \* Digestive discomfort (such as bloating or constipation)
- \* Depression
- \* Fatigue and headaches
- \* Skin complaints
- \* Joint pain
- \* Chronic sinus infections and sensitivity to allergens
- \* PMT and menstrual problems.

Some people can be more prone to *Candida* overgrowth due to prolonged use of antibiotics, oral contraceptives, being pregnant, or having diabetes mellitus.<sup>38</sup>

## BIO-KULT CANDÉA

Bio-Kult Candéa contains seven strains of probiotic bacteria to reinforce the gut microflora, helping to prevent *Candida* from finding binding sites in the gut to grow. These bacteria lower the gut pH so that *Candida* cannot thrive, as it prefers a more alkaline environment. It also contains garlic, well known for its naturally powerful anti-fungal properties and the antioxidant, grapefruit extract.

Taken daily, Bio-Kult Candéa could help maintain naturally strong immunity against an overgrowth of *Candida* in the body.

## RESEARCH EVIDENCE

### GARLIC

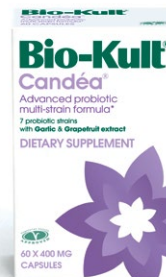
The antimicrobial activity of garlic has been widely studied and susceptible bacteria include *Proteus* spp., *Salmonella* spp., *Escherichia coli*, *Klebsiella pneumonia* and *Staphylococcus aureus*.<sup>39</sup> First discovered in 1944, the active compound within garlic that has these properties is allicin.<sup>40</sup> Allicin has been shown in numerous studies to exhibit antifungal activity against *Candida albicans* as well as strong antioxidant activity.<sup>39</sup>

Garlic appears to be effective at preventing transition of *C. albicans* from its yeast-like form to an invasive filamentous fungus.<sup>37</sup> Interestingly, allicin has been shown to down-regulate the expression of one of the specific genes involved in this transition, with a similar mechanism to a common antifungal drug.<sup>37</sup> *C. albicans* has the ability to exist in biofilms which are often resistant to antifungal drugs.<sup>41</sup> Allicin has been shown to significantly reduce biofilm growth, to disrupt the fungus membrane and decrease further production.<sup>41</sup>

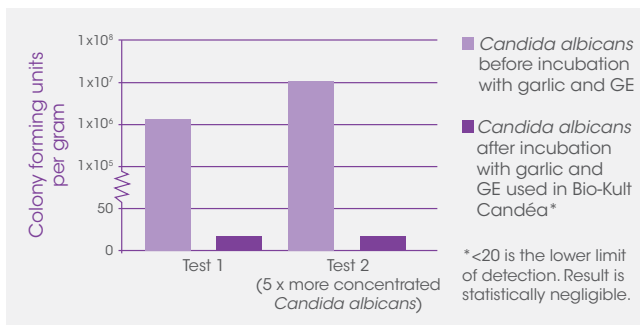
### GRAPEFRUIT EXTRACT

Bio-Kult Candéa is formulated with a natural form of grapefruit extract, which contains a variety of phytonutrients, including bioflavonoids, such as naringin. These bioactive compounds are strongly associated with antioxidant and anti-inflammatory effects.<sup>42</sup>

Pro-inflammatory cytokines have been shown to be elevated in gastrointestinal *C. albicans* and studies indicate that *C. albicans* may create a vicious cycle in which low-level inflammation promotes fungal colonization and fungal colonization promotes further inflammation.<sup>43</sup> This in turn may cause damage to the gut lining via oxidative stress.

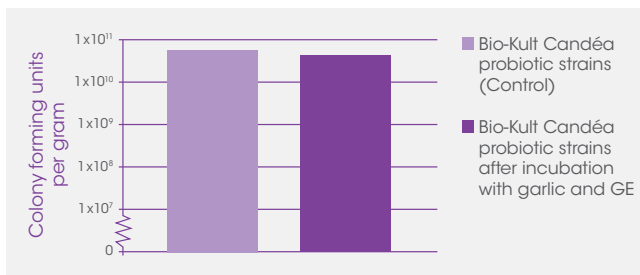


## EFFECT OF GARLIC AND GRAPEFRUIT EXTRACT (GE) ON *CANDIDA ALBICANS*<sup>44</sup>



Both tests indicate that the combination of garlic and grapefruit extract used in Bio-Kult Candéa have strong anti-Candida effects.

## COMPATIBILITY OF GARLIC AND GRAPEFRUIT EXTRACT (GE) WITH BIO-KULT CANDÉA PROBIOTICS<sup>44</sup>



This test indicates that there is no reduction in viability of the probiotics. In conclusion, the garlic and grapefruit extract are compatible with the probiotics used in Bio-Kult Candéa.

## PROBIOTICS

Studies have shown that probiotics, in particular Lactobacilli, appear to have inhibitory effects on the development of *C. albicans* from yeast-to-hyphae form and biofilm formation, through mechanisms involving cell-to-cell interactions and secretion of exometabolites.<sup>45</sup>

There have been a number of clinical studies examining the effects of probiotics on vaginal candidiasis.<sup>46</sup> A group of women with recurrent urogenital infections including vaginal candidiasis consumed Lactobacilli probiotics for 14 days. Within one week, lactobacilli dominated the vagina of all women and no recurrences of yeast vaginitis appeared during the study and follow-up.<sup>47</sup>

## USAGE GUIDELINES\*

- ✳ 2 capsules daily with food
- ✳ Children under 12, half adult dose

\* If you are taking any medications or have any medical conditions, please consult your doctor before taking any nutritional food supplement.

## LIFESTYLE SUGGESTIONS:

Diet could also be a factor, as could a stressful lifestyle. Candida feeds mainly on sugar and carbohydrates so restricting these while taking Bio-Kult Candéa could help maximise its effectiveness.

## EACH DAILY DOSE OF BIO-KULT CANDÉA CONTAINS (2 CAPSULES):

Grapefruit Extract 260mg  
Garlic 120mg

*Lactobacillus casei* PXN® 37™

*Lactobacillus rhamnosus* PXN® 54™

*Lactobacillus acidophilus* PXN® 35™

*Lactobacillus delbrueckii* ssp. *bulgaricus* PXN® 39™

*Streptococcus thermophilus* PXN® 66™

*Bifidobacterium breve* PXN® 25™

*Bifidobacterium longum* PXN® 30™

**Total viable count**  $2 \times 10^9$  CFU (2 billion)

This concentration is guaranteed to the end of the 2 year shelf life.

Approved by the Vegetarian Society

# BIO-KULT PRO-CYAN: ADVANCED FORMULA FOR HEALTHY URINARY TRACTS

## WHAT ARE URINARY TRACT INFECTIONS?

Urinary tract infections (UTIs) are infections of any part of the urinary tract causing inflammation. Lower UTIs in the bladder are commonly known as 'cystitis'. In more than 80% of cases they are caused by the overgrowth of the bacteria *Escherichia coli* (*E.coli*)<sup>48</sup> originating from the digestive system or vagina<sup>49</sup>, or more rarely the bloodstream. Infections from the digestive system are more common as the pathogenic bacteria that take a foothold in the gut are able to move easily from the anus to the urethra. Probably for this reason, UTIs are more frequent in women than men, with an estimated half of all women in the UK having at least one UTI in their life-time with 25% having recurrent episodes<sup>50</sup>.

## SYMPTOMS

- \* Frequent or urgent need to urinate
- \* Frequent need to urinate at night
- \* Pain / burning sensation while urinating
- \* Cloudy or unpleasant smelling urine
- \* Pus or blood in the urine

More serious upper UTIs could cause nausea, fever, lower back pain and confusion.

Medical advice should always be sought if you experience any of the above symptoms.

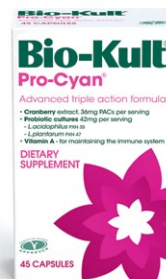
## STANDARD TREATMENT

Depending on the history of the patient, doctors may prescribe a course of antibiotics to combat the infection. With 25% of women suffering recurring episodes, alternative management solutions are often sought as a preventative, to reduce the likelihood of resistance to antibiotics and the side effects associated with them.

## BIO-KULT PRO-CYAN

Bio-Kult Pro-Cyan is a scientifically developed triple action formula that works with the body to help maintain normal levels of bacteria in the gut for supporting a healthy urinary tract. Bio-Kult Pro-Cyan provides:

- \* 36mg of cranberry extract PACs per dose
- \* Two Protexin probiotic strains specifically chosen for their anti-*E.coli* activity
- \* Vitamin A to contribute to the normal function of the immune system and maintenance of healthy mucous membranes

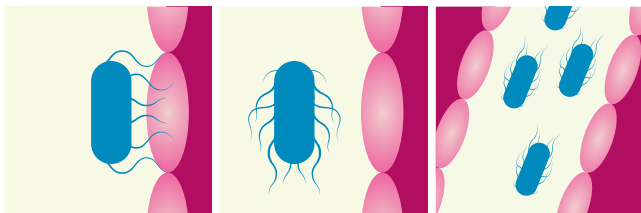


## RESEARCH EVIDENCE

### CRANBERRY

The consumption of cranberry has long been recommended for the prevention and treatment of UTIs. It is understood that cranberries contain specific compounds called proanthocyanidins (PACs) (specifically A type) which help prevent *E.coli* from adhering to the cells lining the urinary tract, thereby lessening the chance of infection by multiplication.<sup>51</sup> The bacteria are subsequently flushed from the urinary tract with the urine, rather than killing the bacteria.

#### Cranberry PACs Anti-Adhesion



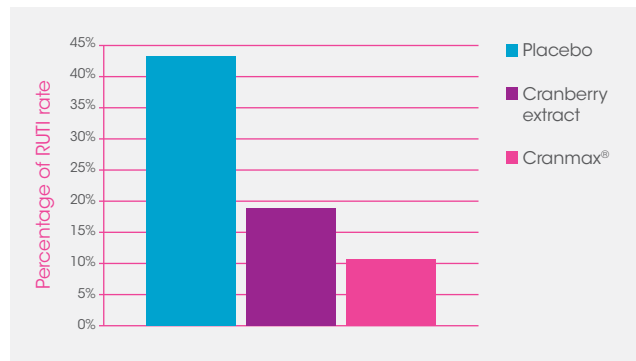
1. Bacteria adhere to cells with their hair-like fimbriae
2. Cranberry PACs inhibit fimbriae's adhesion capabilities
3. Inhibited bacteria "passing through"

Research has shown a dose of 36mg of PAC (containing A-type linkages) found in cranberries to have an anti-adhesion effect against both antibiotic susceptible and resistant strains.<sup>52-54</sup>

Bio-Kult Pro-Cyan contains Cranmax<sup>®</sup> cranberry extract which has specifically been shown in 3 separate randomized clinical trials to significantly reduce the recurrence of UTI's. Two studies using doses of 36mg PACs per day showed Cranmax<sup>®</sup> to be more effective than cranberry juice,<sup>55</sup> another cranberry extract<sup>56</sup> and placebo. The third study showed that Cranmax<sup>®</sup> was as effective as an antibiotic at preventing recurring UTIs and was therefore suggested to be considered an alternative management solution.<sup>57</sup>

### THE EFFECT OF CRANMAX<sup>®</sup> CRANBERRY EXTRACT ON THE RECURRENCE OF UTIs DURING STUDY PERIOD

(adapted from Bohbot, 2007<sup>56</sup>)



### VITAMIN A

Vitamin A contributes to the normal function of the immune system and the maintenance of normal mucous membranes found in various places within the body including the intestinal lining, vagina and urinary tract. This important barrier is considered the first line of immune defense against the external and internal environment.<sup>58</sup>

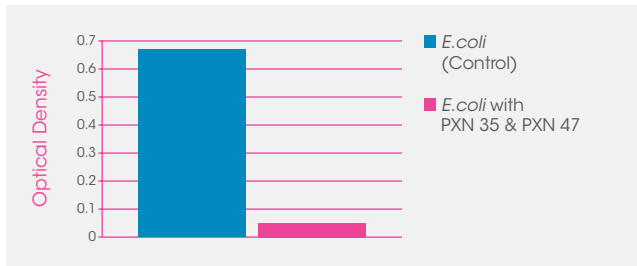
Mucous membranes may become damaged as a result of a pathogenic infection so maintaining these crucial barriers is of great importance. It has been observed that Vitamin A is excreted in the urine during acute infections.<sup>59</sup> Taken alongside antibiotics Vitamin A has been shown to significantly reduce infection rate, suggesting a promising role in the prevention of recurring UTIs.<sup>60</sup>

## PROBIOTICS

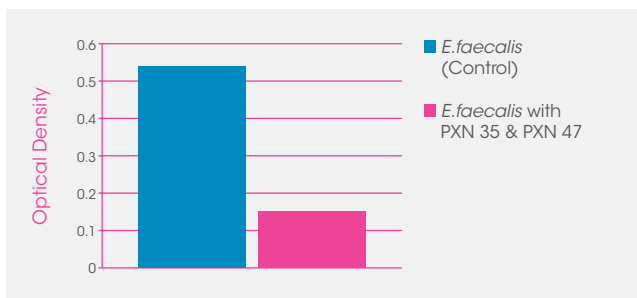
Probiotics have been shown to restore and maintain the gut and vaginal microflora<sup>61</sup> and to have antimicrobial activity. With a lot of UTIs originating from a pathogenic overgrowth in the gut, probiotics are being recommended as an alternative management solution to recurring UTIs.

Another unique ingredient of Bio-Kult Pro-Cyan is the two Protexin probiotic strains specifically chosen for their activity against common UTI pathogens *E.coli* and *Enterococcus faecalis*. The graphs below show that the two strains, *Lactobacillus acidophilus* PXN 35 and *Lactobacillus plantarum* PXN 47 were able to significantly inhibit the *E.coli* and *E.faecalis* growth. The lower the optical density, the lower the biomass of the pathogens, indicating reduced growth.

### INHIBITION OF *E.COLI* WITH PXN 35 AND PXN 47 AFTER 8 HOURS<sup>62</sup>



### INHIBITION OF *E.FAECALIS* WITH PXN 35 AND PXN 47 AFTER 8 HOURS<sup>62</sup>



## USAGE GUIDELINES\*

- \* 1-2 capsules once or twice daily with food
- \* Children under 12, half adult dose

\* If you are taking any medications or have any medical conditions, please consult your doctor before taking any nutritional food supplement.

## LIFESTYLE SUGGESTIONS:

- \* Drink 3 liters of water a day during an acute attack and 2-3 liters thereafter (to help flush the bacteria from the bladder)
- \* Avoid retaining urine for long periods of time
- \* Avoid sexual intercourse until infection has cleared
- \* Wash before and after intimacy and urinate immediately after sexual intercourse
- \* Keep the genital area clean and wipe from front to back
- \* Some suggest wearing cotton underwear, and avoiding tight fitting trousers, perfumed soaps, vaginal deodorants, lady wipes and tampons

## EACH DAILY DOSE OF BIO-KULT PRO-CYAN CONTAINS (2 CAPSULES):

Cranberry extract (Cranmax<sup>®</sup>) 36mg PACs

Vitamin A 320 µg

*Lactobacillus acidophilus* PXN<sup>®</sup> 35™

*Lactobacillus plantarum* PXN<sup>®</sup> 47™

**Total viable count** 1 x 10<sup>9</sup> CFU (1 billion)

This concentration is guaranteed to the end of the 2 year shelf life.

Approved by the Vegetarian Society

# FREQUENTLY ASKED QUESTIONS

## DOES BIO-KULT NEED TO BE REFRIGERATED?

No. The probiotic bacteria in all Bio-Kult products are specially coated during the manufacturing process to ensure they remain stable at room temperature. The Bio-Kult blister packs also offer a high degree of protection against moisture and extremes of temperature.

## WHY IS BIO-KULT'S MULTI-STRAIN FORMULA MORE EFFECTIVE THAN A SINGLE STRAIN PROBIOTIC?

In the same way a football team full of goalkeepers would struggle to be effective, a single strain probiotic is unlikely to deliver as many benefits as a multi-strain probiotic. There are hundreds of different species in our digestive system, so a multi-strain probiotic is likely to work in more areas, and provide better protection against a larger number of harmful bacteria.

## CAN BIO-KULT SURVIVE THE HIGH ACIDITY OF THE STOMACH?

Yes – all strains within Bio-Kult products are encapsulated, which protects them from the high acidity of the stomach and ensures they reach the small intestine in a viable state (see page 3 acid stability graph).

## CAN BIO-KULT CAPSULES BE PULLED APART AND THE CONTENTS TAKEN IN A DRINK OR ON FOOD?

Yes. When the drink or food is consumed within 12 hours with the probiotic inside, it is not likely to adversely affect Bio-Kult's effectiveness.

## ARE ALL BIO-KULT PRODUCTS SAFE TO TAKE DURING PREGNANCY?

We would always suggest that you seek advice from your doctor or health care practitioner on all aspects of nutrition while pregnant.

## WHAT IS THE SHELF LIFE OF BIO-KULT PRODUCTS?

An external laboratory undertakes rigorous stability testing on our Bio-Kult probiotics so we are able to guarantee stability and count until the end of the two year shelf life when kept at room temperature. The best before date is clearly located on the base of each box.

## WHY DOES BIO-KULT INFANTIS CONTAIN PREBIOTICS WHEN THE OTHER PRODUCTS IN THE RANGE DO NOT?

Bio-Kult Infantis contains prebiotics to encourage the growth of commensal bacteria within the infants immature and developing gut flora. However, in adults who have an imbalanced flora they can cause some bloating in the short term.

### THE ENTIRE BIO-KULT RANGE:

- \* Contains traces of soy and traces of milk products at a level which will not affect lactose intolerance sufferers
- \* Suitable for children and pregnant women\*
- \* Capsules can be pulled apart and the contents sprinkled onto food, mixed in a drink or swallowed whole

- \* Gluten, wheat, nut and egg free
- \* Can be stored at room temperature without the need for refrigeration
- \* Total viable count guaranteed to the end of the 2 year shelf life
- \* Made in the UK
- \* Non-GMO

\*or as recommended by your doctor or healthcare practitioner

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