

# Probiotic News



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Celebrating 20 Years of Good Health

Issue Number 7

## Top News



### PAC-ked full of goodness – Introducing Bio-Kult Pro-Cyan

Bio-Kult Pro-Cyan is a triple action formula scientifically developed with cranberry extract (36mg PACs), two specifically selected probiotic strains and Vitamin A that works with your body to help maintain normal levels of bacteria in the gut in order to help maintain a healthy urinary tract.

## Immunity focus

Winter is fast approaching and now is the time to start bolstering your immunity in preparation for the cold and flu season ahead.

Our Nutritional Therapist Natalie Lamb explains in more detail.



### Introduction

The immune system is one of our most important body systems and also one of the most complex. A healthy immune system is primed to provide a defence mechanism against invading pathogens or their toxic by-products that could otherwise cause infection. Up to 70% of our immune cells are located in the gut (Vighi).

The immune system operates at two levels:

1. The innate immune response is activated within minutes or hours of encountering a foreign substance

2. The specific adaptive immunity takes days or weeks to develop and act (Rijkers, 2011). It is incredibly clever, creating antibodies with a built-in memory, and on a daily basis will combat many attacks.

There are times when the immune system might have to work harder such as during the winter months or when on holiday. Its function can be impaired for example in the elderly, during times of stress, lack of sleep, malnutrition or illness, therefore compromising the ability to fight infections. A good, healthy immune system is paramount for optimum health and vitality all year round.

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### Lepicol on the road!



### Protexin team visit Hong Kong for Vitafoods Asia

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## Just Launched... Our new look websites

More details inside.



## Immunity focus from front page

### Gut Flora and Immunity

During development from infancy into adulthood, gut bacteria shape the tissues cells and molecular profile of the gastrointestinal immune system (Lee, 2010) meaning the gut microbiota is of crucial importance to its correct development and function. Research continues to demonstrate the microflora's ability to regulate a wide range of immune markers, including inflammation (Mazmanian, 2008), (Duan, 2010), (Avci, 2010). The microflora also influences the immune system's state of alertness, optimising the speed and effectiveness of the body's defence response to an infection (Cartwright).

### Probiotics and Immunity

The rationale for the use of probiotics to improve the function of the immune system is supported by their potential to influence and stabilise the composition of the gut microflora, enhance resistance to potential pathogens and modulate immune function parameters (Wolwers 2010). Probiotics have shown positive influences on immune disorders from the common cold (Baron) through to more serious allergic diseases (eczema,

asthma, food allergies) (Kalliomäki) and inflammatory conditions such as inflammatory bowel disease (IBD, Crohn's and ulcerative colitis) (Rioux). Not surprisingly alterations in intestinal microbiota have been detected in individuals experiencing these conditions (Kalliomäki) (Guarner).

### Optimising Immunity during the Winter Months

Viral respiratory tract infection is said to be the most common illness among humans (Baron, 2009) and is often hard to treat. Probiotics are being increasingly studied for their ability to enhance host resistance to, and recovery from, infection and have been shown in several human studies to also be a potential adjuvant to improve the effectiveness of influenza vaccines (Davidson, 2011), (Rizzardini, 2012). Results have varied but overall studies report significant Improvements.

In 2005, Vrese *et al* found a multi-strain probiotic at a dose of  $5 \times 10^7$  CFU (50 million) given to 479 healthy adults for 3 months significantly shortened common cold episodes by almost 2 days, reduced the severity of symptoms by 23%, enhanced immune

system blood markers and increased lactobacilli and bifidobacteria levels in stools. A further study by Tubelius *et al* gave 181 healthy employees  $1 \times 10^8$  CFU (100 million) lactobacilli for 80 days. The probiotic significantly reduced the occurrence of work place sick leave from 26.4% to 10.6% in day workers and from 33% to 0% among shift-workers.

Intense physical activity is known as a stressor on the body and has been shown in studies to suppress important immune markers (Lollo, 2012) and increase the incidence of upper respiratory tract infections (Kekkonen, 2007). Probiotics have been shown to support athletes by slowing down this suppression during exercise (Lollo, 2012) and in one study to half the duration and severity of associated infections (Cox 2010).

### Conclusions

Overall, studies show a promising outlook on the potential of probiotics to support immunity although different probiotic strains may differ in their effects, giving reason to support the use of a multi-strain product.

TURN TO BACK PAGE FOR REFERENCES.

## Lifestyle Tips to Optimise Immune Function

- Eating a wide variety of colourful fruits and raw or lightly cooked vegetables each day will provide you with a range of immune enhancing nutrients and fibre to keep your body, mind and bowels healthy.

### Reduce stressors on the body

- Exercise wisely – moderate exercise is beneficial, but be sure to support your body's immune system with a good quality multi-strain probiotic during intense physical exercise
- Relax – include some form of relaxation in your daily routine such as yoga, meditation, breathing

exercises, a walk, a bath or leaving your desk at lunch time

- Reduce the intake of stimulating simple sugars, refined carbohydrates, caffeine and alcohol
- Sleep well – try to get around 7 hours of uninterrupted sleep a night.



Don't forget to join the Bio-Kult, Lepicol and Protexin facebook pages to keep up to speed with all the latest news and events.

# More News

## HUMAN HEALTH CARE

### Protexin team meet the Queen (again).



As Queen's Award winners in 2011 the Protexin team were invited to Yeovil to meet the Queen as she made her tour of the West Country in celebration of her Diamond Jubilee.



### Lepicol on the road!



Lepicol is currently being advertised in motorway service stations across the country. If you spot our advert send us a picture and the name of the service station you spotted it in to [info@lepicol.com](mailto:info@lepicol.com) and we will send you in return some samples of Lepicol.



### Protexin team visit Hong Kong for Vitafoods Asia



The Protexin team have once again been talking to customers overseas at the popular Vitafoods Asia.

## PROTEXIN

### Probiotics International Ltd. celebrates it's 20th anniversary!

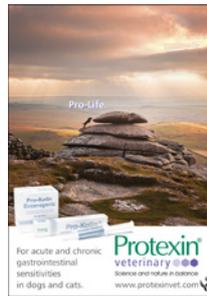


Probiotics International Ltd. is celebrating its 20th Anniversary this year! We would like to thank all our customers for their support over the last 20 years.

## VETERINARY

### New Ad Launch!

We are delighted to release 2 new Protexin Veterinary adverts to join the Pro-Life Campaign.



## EQUINE PREMIUM

### Meet our new addition to the team

Anna Flynn has joined the Protexin Team as an Equine Premium Territory Manager. With a real passion for horses and great experience in the equestrian retail field Anna will be a great addition to the team.



# New online look

Take a look at our new websites...

## [www.protexin.com](http://www.protexin.com)

Our main company website.



## [www.lepicol.com](http://www.lepicol.com)

For human health. Our three in one combination of Psyllium Husk Fibre, Probiotics and Prebiotics.



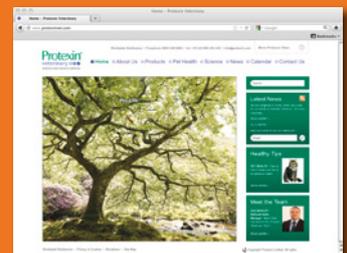
## [www.bio-kult.com](http://www.bio-kult.com)

For digestive health in humans. Our unique 14 multi-strain probiotic.



## [www.protexinvet.com](http://www.protexinvet.com)

Our exclusive veterinary range website.



## [www.equinepremium.com](http://www.equinepremium.com)

Our dedicated probiotic range for horses.



# A spotlight on Roy Fuller...



Dr Fuller created the most widely used definition of probiotics in 1989, in a peer reviewed journal.

'A live microbial feed supplement which beneficially affects the host animal by improving its intestinal microbial balance' this was proposed more in relation to animal dietary supplements.

His latest definition is 'A probiotic is a preparation of viable microorganisms which is consumed by humans or other animals with the aim of inducing beneficial effects by qualitatively or quantitatively influencing their gut microflora and / or modifying their immune status'.

We find out a bit more about the man behind the definition.

## Tell us a bit about your background?

I went to Bristol University in 1952, initially to study botany but discovered a "new" subject called Microbiology so transferred my course, graduating in 1955.

During my National service in the RAMC (1955-57) I was seconded to the Microbiological Research Establishment at Porton Down. The work I did here on the Pathogenicity of *Brucella abortus* was submitted for an MSc in 1958.

In 1957 I was appointed Scientific Officer at the National Institute for Research in Dairying (NIRD). I was attracted by the opportunity to work on the gut flora which was then a relatively un-researched field. I thought I could make a contribution! After my studies on the relationship between different gut organisms and the host I finally considered myself to be a "gut micro-ecologist".

## Why are you so interested in probiotics?

I developed an interest in the factors controlling colonisation and this led to my interest in probiotics.

I think I was the first scientist in UK to publish anything on probiotics and my definition in 1989 was a significant

land mark in the growth of interest in the UK.

Probiotics continue to interest me because there are a growing number of studies exhibiting new facets and uses in animals and humans.

The essential features of a good probiotic are:

- 1) High viability which can be maintained for long periods
- 2) Ability to adhere to the gut epithelium and thus increase residence time
- 3) Ability to resist the many inimical conditions in the gut

Other credits to my name include:

- A Fellowship of the Society of Biology (Reading 1962)
- I have edited or co-edited 5 books (3 on probiotics)
- In 1989 I set up as an Intestinal Microecology Consultant

## What does the future hold?

There is still so much we don't know about probiotics but that is what makes it so exciting. All the research so far indicates many beneficial uses for probiotics and I am sure there will be many more in the future.

### REFERENCES

1. Vighi G, Marcucci F, Sensi L, Di Cara G, Frati F. 2008. Allergy and the gastrointestinal system. *Clin Exp Immunol. Sep*; **153** Suppl 1:3-6.
2. Rijkers GT, de Vos WM, Brummer RJ, Morelli L, Corthier G, Marteau P. 2011. Health benefits and health claims of probiotics: bridging science and marketing. *Br J Nutr. Nov*; **106**(9):1291-6.
3. Lee YK, Mazmanian SK. 2010. Has the microbiota played a critical role in the evolution of the adaptive immune system? *Science. Dec 24*; **330**(6012):1768-73.
4. Mazmanian SK, Round JL, Kasper DL. 2008. A microbial symbiosis factor prevents intestinal inflammatory disease. *Nature. May 29*; **453**(7195):620-5.
5. Duan J, Chung H, Troy E, Kasper DL. 2010. Microbial colonization drives expansion of IL-1 receptor 1-expressing and IL-17-producing gamma/delta T cells. *Cell Host Microbe. Feb 18*; **7**(2):140-50.
6. Avci FY, Kasper DL. 2010. How bacterial carbohydrates influence the adaptive immune system. *Annu Rev Immunol*; **28**:107-30.
7. Cartwright P. 2011. *Probiotic Allies. How to Maximise the Health Benefits of your Microflora*. Prentice Publishing, Ilford. pp40.
8. Wolvers D, Antoine JM, Myllyluoma E, Schrezenmeir J, Szajewska H, Rijkers GT. 2010. Guidance for substantiating the evidence for beneficial effects of probiotics: prevention and management of infections by probiotics. *J Nutr. Mar*; **140**(3):698S-712S.
9. Baron M. 2009. A patented strain of *Bacillus coagulans* increased immune response to viral challenge. *Postgrad Med. Mar*; **121**(2):114-8.
10. Kalli omäki M, Isolauri E. 2003. Role of intestinal flora in the development of allergy. *Curr Opin Allergy Clin Immunol*; **3**(1):15-20.
11. Rioux KP and Fedorak RN. 2006. Probiotics in the Treatment of Inflammatory Bowel Disease. *Journal of Clinical Gastroenterology*; **40**: 260-263.
12. Guarner F. 2003. Microecology as a target for therapeutic intervention in inflammatory bowel disease. *Drugs. Sep*; **6**(9):868-73.
13. Marseglia GL, Tosca M, Cirillo I, Licari A, Leone M, Marseglia A, Castellazzi AM, Ciprandi G. 2007. Efficacy of *Bacillus clausii* spores in the prevention of recurrent respiratory infections in children: a pilot study. *Ther Clin Risk Manag. Mar*; **3**(1):13-7.
14. Tubelius P, Stan V, Zachrisson A. 2005. Increasing workplace healthiness with the probiotic *Lactobacillus reuteri*: a randomised, double-blind placebo-controlled study. *Environ Health. Nov 7*; **4**:25.
15. de Vrese M, Winkler P, Rautenberg P, Harder T, Noah C, Laue C, Ott S, Hampe J, Schreiber S, Heller K, Schrezenmeir J. 2005. Effect of *Lactobacillus gasseri* PA 16/8, *Bifidobacterium longum* SP 07/3, *B. bifidum* MF 20/5 on common cold episodes: a double blind, randomized, controlled trial. *Clin Nutr. Aug*; **24**(4):481-91.
16. Turchet P, Laurenzano M, Auboiron S, Antoine JM. 2003. Effect of fermented milk containing the probiotic *Lactobacillus casei* DN-114001 on winter infections in free-living elderly subjects: a randomised, controlled pilot study. *J Nutr Health Aging*; **7**(2):75-7.
17. Hatakka K, Savilahti E, Pönkä A, Meurman JH, Poussa T, Näse L, Saxelin M, Korpela R. 2001. Effect of long term consumption of probiotic milk on infections in children attending day care centres: double blind, randomised trial. *BMJ. Jun 2*; **322**(7298):1327.
18. Davidson LE, Fiorino AM, Snyderman DR, Hibberd PL. 2011. *Lactobacillus GG* as an immune adjuvant for live-attenuated influenza vaccine in healthy adults: a randomized double-blind placebo-controlled trial. *Eur J Clin Nutr. Apr*; **65**(4):501-7.
19. Rizzardini G, Eskesen D, Calder PC, Capetti A, Jespersen L, Clerici M. 2012. Evaluation of the immune benefits of two probiotic strains *Bifidobacterium animalis ssp. lactis*, BB-12® and *Lactobacillus paracasei ssp. paracasei*, L. casei 431® in an influenza vaccination model: a randomised, double-blind, placebo-controlled study. *Br J Nutr. Mar*; **107**(6):876-84.
20. Lollo PC, Cruz AG, Morato PN, Moura CS, Carvalho-Silva LB, Oliveira CA, Faria JA, Amaya-Farfan J. 2012. Probiotic cheese attenuates exercise-induced immune suppression in Wistar rats. *J Dairy Sci. Jul*; **95**(7):3549-58.
21. Kekkonen RA, Vasankari TJ, Vuorimaa T, Haahela T, Julkunen I, Korpela R. 2007. The effect of probiotics on respiratory infections and gastrointestinal symptoms during training in marathon runners. *Int J Sport Nutr Exerc Metab. Aug*; **17**(4):352-63.
22. Cox AJ, Pyne DB, Saunders PU, Fricker PA. 2010. Oral administration of the probiotic *Lactobacillus fermentum* VRI-003 and mucosal immunity in endurance athletes. *Br J Sports Med. Mar*; **44**(4):222-6.

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