THE TUESDAY MINUTE

IT'S TIME TO FEEL GOOD AGAIN

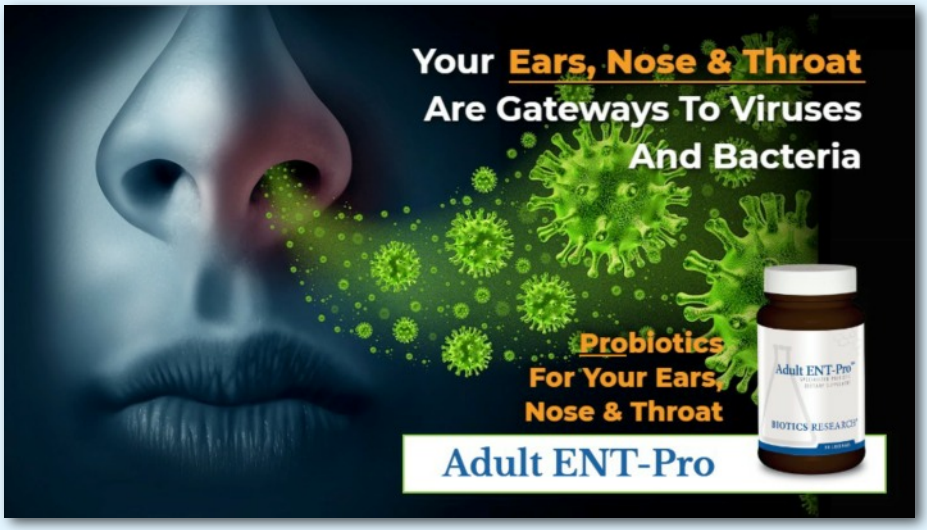
THIS WEEK'S TOPIC

Adult ENT-Pro

"Since viruses and bacteria often enter the system via mouth, nose, or ears, these strains offer an unusual approach to immune support."

Have you ever heard the term Immuno-Biotic? It refers to a probiotic or para-biotic product that enhances or modulates health by driving mucosal immune mechanisms. I learn-ed the term from a Liubov (Lubov) Sichel (Sichell), PhD, a world-renown microbiologist from Moscow State University.

She has over 180 publications and 36 patents, so she is no slouch. She partnered with Biotics Research to create Children's ENT-Pro, which champions 2 new strains of probiotics, L. delbrueckiiLE, LE for short and L. rhamnosus, or LB3. The product also contains two strains of bifidobacteria and Lactobacillus plantarum, lysomes, and FOS in a strawberry flavored lozenge. But since this product has 40 clinical studies and Biotics has released an adult version called Adult ENT-Pro, I thought it would be fun to share some of the other studies we didn't cover in our earlier program. You can see a link to that earlier discussion on Children's ENT-Pro to the right.



The 40 studies I just mentioned have shown the product is safe, stabile, and has a high level of survivability. Safety, stability, and survivability are important because these are living organisms. The studies show high levels of adhesion to oral tissues, even in the presence of antibiotics and chemotherapy drugs. Studies show these strains are highly antagonistic against pathogens, and maybe more important, have immune-modulating activity. Since viruses and bacteria often enter the system via mouth, nose, or eyes, these strains offer an unusual approach to immune support.

I have attached a summary sheet for each of the new strains that give highlights of each strain. But in short, each strain act as potent immune modulators that balances and normalizes non-specific reactions working through cellular immunity by stimulation of the production of key cytokines including Interferons (IFNs), Tumor Necrosis Factor (TNF), and Natural Killer Cells (NK), IL-1, IL-2, and IL-6, IL-10 for protection against infections, even cancer cells, to balance the immune system.

Both LE and LB3 affect innate and adaptive immunity through both specific and non-specific links, and thus, modulate the immune response by

TH1 and Th2 pathways, depending upon the immune status of the subject.

Let's look at Table 1 Antagonistic Activity Against ENT Pathogens. This shows the individual strength of the new strains against the most common ENT pathogens. The table is a little tricky because the numbers are shown as Zones of growth inhibition in mm. The bigger the number, the larger the zone of growth inhibition. In other words, the bigger the number, stronger the effects. (See slide 9 on attachment.)

Four different strains of probiotics are compared to each of the 15 pathogens. Columns 1 and 4 are two of the most well-known strains in Europe. Column 2 is LE and column 3 is LB3. Let's look at the first pathogen on line one, E.Coli M 17. Columns 1 and 4 show a zone of inhibition of 20 plus or minus 1.5. Column 2 is LE and has an inhibition zone of 28. Column 3 is LB3 and boasts an inhibition zone of 32. The LE and LB3 strains show 40-50% greater potency. Look at the last line, candida. Columns 1 and 4 show zero inhibition. Column 2 LE has a modest inhibition of 8, but column3, LB3, has a whopping 32. Strain synergy is a term that is not usually discussed when it comes to probiotics. But just as botanicals can create synergy so too can the right combination of probiotics. And the unique combination of the strains in Children's ENT-Pro and Adult ENT-Pro create the potent clinical effects.

Slide 13 on attachment Anti-Candida Activity. This slide shows the kill activity of LE and LB3 separately and then together. In this slide the lower number reflects the stronger the fungicidal activity. The first column LE has a kill activity of 5x10 9th power or 5 billion. The second column LB3 has a kill activity of 1.25x10 9th or 1.25 billion. But the combination of LE and LB3 together is .5x10 8th or 500 million, a significant increase in fungicidal activity.

Type of Activity	LE	LB3	LE & LB3
Fungicidal or kill activity	$5.0x10^9$	$1.25x10^9$	$.5x10^8$
Fungiostatic activity	$2.5x10^9$	6.25^8	$2.5x10^7$

The second line is Fungiostatic activity, which refers to inhibiting the growth of fungi without killing them. LE inhibits them to 25 billion. LB3 inhibits them to 6.25 billion, but the combination inhibits fungus activity to 250 million.

Virtually all the strains of opportunistic fungi appeared to be sensitive:
Candida albicans showed a 90% kill rate, Candida krusei showed a 80% kill rate, and Candida tropicalis showed a 100% kill rate.

Adult ENT-Pro contains a proprietary blend 6 billion organisms: Lactobacillus rhamnosus LB3*, Lactobacillus delbrueckii LE*, Lactobacillus plantarum LM*, Bifidobacterium longum*, Bifidobacterium bifidum*, 15 mg of Lysozyme, and 25 mg of Fructooligosaccharides. Adult ENT-Pro combines potency of live immunobiotic/probiotic cells and lysozyme that acts as an Immuno-Biotic, which enhances or modulates health by driving mucosal immune mechanisms.

Lysozymes is a term most of us are not familiar with. They are antimicrobial enzymes produced by animals that form part of their innate immune system. Lysozymes are found naturally in human saliva. The enzyme functions by attacking, hydrolyzing, and breaking the mesh-like layer of sugar and amino acid bonds that make up the cell walls. This hydrolysis in turn compromises the integrity of bacterial cell walls causing lysis of the bacteria.

This is a snapshot of the information available on both Children and Adult ENT-Pro. It's exciting to see how supplying the right bacteria can support and enhance the effectiveness of our microbiota, which can have a profound effect on our immune system. Thanks for watching, I look forward to being with you again next Tuesday.