

## An Analytical Comparison of Del-Immune V® and Russian Choice Immune

Daniel N. Frank, Ph.D.  
Professional Research Associate  
University of Colorado, Boulder, Colorado  
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Each strain of *Lactobacillus rhamnosus* has individual characteristics that directly influence the inherent specific biological activity and potential clinical response. Technological processes employed in the production of a strain may also produce differences within the final commercial product.

Del-Immune V® and Russian Choice Immune are both products labeled as containing 25 mg. *Lactobacillus rhamnosus* lysate powder. The manufacturer of Del-Immune V® has commissioned analytical studies to compare the products.

Del-Immune V® is a product containing the cell pieces or fragments created by the digestion of a unique strain of a lactic acid bacteria (*Lactobacillus*). The technical production of the Del-Immune V® involves the use of natural enzymes found in the human intestine coupled with a series of manufacturing processes. The cell wall fragments contain amino acids, DNA, RNA, complex sugars called oligosaccharides, and peptidoglycans. These components collectively activate the immune response.

The University of Colorado (CU), Boulder, Colo., Cornell University, Ithaca, New York, the National Technical University of the Ukraine (NTU) Kiev, Ukraine, and Hauser Laboratories in Boulder, Colo. all performed an extensive set of analyses using a variety of methodologies. The University of Colorado performed a double blind analysis to avoid research bias. As mentioned above, the objective of these analyses is to establish whether Del-Immune V® and Russian Choice Immune are the same product, as the manufacturer of Russian Choice Immune claims.

The active ingredient of Del-Immune V® is produced from a unique strain among thousands of strains of the bacterium *Lactobacillus rhamnosus*. Russian Choice Immune makes the claim that its active ingredient is the same as Del-Immune V®. The benefits of nutritional supplements, such as Del-Immune V®, are likely to be derived from stimulation of the immune response by the basic building blocks of the *Lactobacillus* bacteria. Particular emphasis was therefore placed on comparing the quantities of these substances in the two products. Experiments were carried out on multiple capsules at each facility to obtain accurate results.

Tests of the *Lactobacillus* were based on four criteria:

1. Measuring the presence of proteins and microproteins in each product.
2. Measuring the DNA contents in each product.
3. Measuring the presence of microelements in each product
4. Identifying and measuring the presence of *Lactobacillus rhamnosus* in each product.

**Protein.** The quantities of protein in Del-Immune V® and Russian Choice Immune capsules were measured at CU, NTU, and Hauser Laboratories. Capsules were dissolved in liquid to release the dried protein and subjected to three different methods for quantifying proteins. Each group of researchers found that Del-Immune V® contained at least three times more protein than Russian Choice Immune.

**DNA.** The qualities and quantities of the genetic material DNA (deoxyribo nucleic acid) were assessed by all the research groups. The CU researchers reported that Del-Immune V® capsules contained more than 100 times the DNA than the Russian Choice Immune capsules. The groups at NTU and Cornell University

also found much higher levels of DNA in Del-Immune V® capsules. These results were confirmed by application of an extremely sensitive test, the polymerase chain reaction (PCR, which may be familiar to those who watch TV dramas such as “Crime Scene Investigation”) by researchers at CU and Hauser Labs.

**Micro-elements.** The analytical report from NTU measured the levels of seven chemical elements that are essential to life by the extremely precise technique of X-ray fluorescence analysis. Potassium, calcium, manganese, iron, and zinc quantities were all significantly greater in Del-Immune V® compared to Russian Choice Immune.

**Lactobacillus.** Microbiological analysis performed at Hauser Labs revealed that Del-Immune V® capsules suggest that the two products contain either differing quantities of lactobacillus lysates (as suggested by the other analyses) and/or that preparation of the lysates differed markedly in the two products.

**Summary.** In conclusion, all studies found substantial differences in composition between Del-Immune V® and Russian Choice Immune. Most significantly, Del-Immune V® contained dramatically higher amounts of protein, DNA, nuclear proteins and microelements, such as iron, zinc, and calcium.

**Conclusion:**

**Based upon the analysis performed at all facilities, Del-Immune V® and Russian Immune Choice are different products. The most significant difference in all analytical studies was the discovery that Del-Immune V® contains 100 times-plus more DNA than Russian Immune Choice.**