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Short Communication
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The Use of Human Intestine to Deliver Recombinant Proteins Which Macroorganism Needs

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Abstract

The author has performed the partial body fat removal in the volunteer who has tendency to increase the body weight. The author investigated the problem of food fat digestion on rabbits and successfully used it for the design and use of the proprietary fat removal column. The observations of the fat transport in the rabbit blood had brought the author to understanding that the intestine is a wide and open gate for the recombinant proteins, if inhabit the intestine with the genetically engineered members of the normal human intestinal; microflora. It is paramount to do the genetic engineering of the component of the human normal intestinal microflora for about 200 h, not longer, as otherwise long cultivated *in vitro* the engineered microorganisms do not adhere to the intestinal cells of the host thus making the whole procedure the waste of the very well paid time (patient/health insurance pays). The author has designed the procedure to cure the diabetes II and anemia in another volunteer. The success determined the need for the look in the future, when the overcrowded earth population might start relocating to other planets vaccines for the relocating people.

Keywords: Anemia; Cell penetrating peptides; Recombinant proteins

Introduction

Here in the author has studied the food fat transport in the rabbit organism and made crucial decisions on the therapeutic use of the intestinal tract to deliver the recombinant proteins to the human body. This is the description of new method to deliver the recombinant proteins to the body of the patient.

The competitors of the author include 1) Economical production of recombinant proteins in plants (any foreign protein causes the immune reaction at protein delivery to human body) [1], 2) Cell Penetrating Peptides (CPPs) can be tethered to the protein of interest [2-4] to trigger endocytosis-mediated uptake when they interact with the cell membrane [5-7], 3) Live attenuated *Salmonella* strains have been extensively explored as oral delivery systems for recombinant vaccine antigens and effector proteins with immunoadjuvant and immunomodulatory potential [8], 4) The use of genetically engineered myoblasts as a recombinant protein delivery system, stable transfectants of the murine C2C12 myoblast cell line were produced that synthesize and secrete high levels of human Growth Hormone (hGH) *in vitro* [9], The use of carrier systems to deliver rhBMP-2 and rhBMP-7 to sites of bone tissue regeneration and repair [10], 5) The use of silk proteins which are biodegradable and biocompatible, and can also be tailored to contain additional features via genetic engineering, suggesting utility for gene delivery [11], and 6) Batch electroporation as a delivery tool for single polypeptides and multi-subunit protein assemblies of the kinetochore, a spatially confined and well-studied subcellular structure [12]. None of said methods include the use of human intestine and the genetic manipulations with the strains of normal human intestinal microflora to make them express the recombinant proteins for the REGULATED delivery of said recombinant proteins to the bloodstream of the intestinal microflora host.

So, the author has developed a new method of the recombinant proteins delivery into the host macroorganism. With this method it was tempting for the author to use the new developed method of the recombinant proteins delivery on the volunteers who needed well qualified help of the Medical Doctor. Also, the development of said method had the observations of the electron microscopy of the ingested food intake, which helped the author to offer to the volunteer in need the method of the body weight reduction due to the corrections of the body fat content (Figure 1, 2).

Other volunteers needed help with their Diabetes II and anemia, and the author developed

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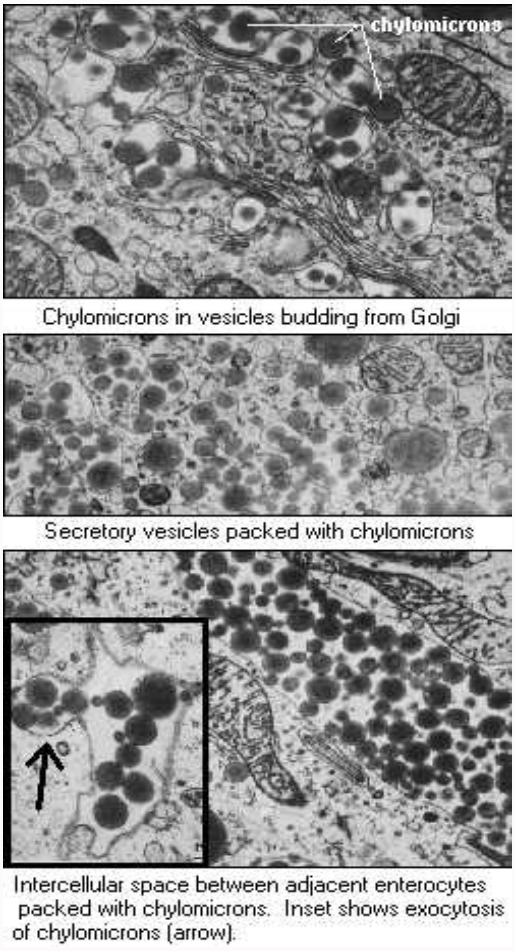

Figure 1: Chylomicrons originated from the food fat.

the new method of the recombinant proteins delivery to the marcrooganisms which is completely physiological and might be combined with the regular work activity of said volunteers. The author has isolated the *Lactobacillus* case MT896 strain from the feces of the volunteer in the need for treatment of Diabetes II and anemia and engineered said strain to make said strain express in the intestine of said volunteer recombinant human insulin (the recombinant human insulin submission ID to the NCBI is 2442803) and the recombinant human erythropoietin (the sequence of the recombinant human erythropoietin expressed by the intestinal isolate *L. casei* MT896 Insulin Erythropoietin has been deposited to NCBI (recombinant human erythropoietin submission ID is 2482572). The Diabetes II treatment in another volunteer has been also described [14]. The author has used his knowledge obtained with the help of rabbits to cure the pepsin secretion deficiency in another volunteer [15]. But the pinnacle of the new delivery method described for the first time by the author is the protection of the future crews of the extraterrestrial cargo ships intended for the travel to the new planets where the population of Earth will be relocated (vaccination technology) [16].

Therefore, besides his major occupation, namely, expansion of the invented by the author inexpensive technologies to manufacture gasoline and diesel fuel replacements from air CO_2, not from petroleum, the Author faces the future with pride as he has invented the new mechanism of the *in vivo* vaccination of the extraterrestrial crews of the to be created new Spacecrafts for the relocation of the overcrowded Earth population to other suitable planets.

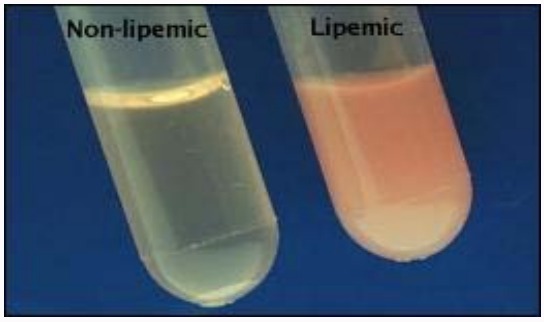

Figure 2: Blood plasma with the chylomicrons from the food fat (on the right part of the image).

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