



Influence of Ecomer/Alkymer alkylglycerols on different parameters in the blood of healthy subjects.

The study that has been carried out in Russia, is well designed and controlled. Groups of healthy volunteers have been administered daily oral Alkymer (the trade name is Ecomer in other countries) or placebo capsules during a 15-day period (double blind study). Neither the supervisor of the study, nor the subjects investigated have been aware of the type of capsule that has been administered. Each subject has taken booth types of capsules. In one group of subjects Alkymer was first administered and one month later placebos. In the other group placebo administration was followed by Alkymer in a corresponding way. This experimental set up gives a good picture on the biological effects of the capsules.

Data processing and statistical analysis.

Since the initial values for the subjects differed widely, the values of each subject have been normalized to 100%. The subsequent values have been related to the initial one and have also been expressed in percent. Since a number of extreme values have been noted and the values do not seem to be normally distributed, all the values have been logarithmized when calculating the mean values and standard deviation ($M \pm SD$).

To make the tables more easy to read these \log_{10} mean values have been antilogarithmized and presented as % in the tables. The statistical significance of differences between the initial value and a subsequent mean value has been tested using the paired Student's t-test.

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Results.

In general it may be concluded that the placebo effects on the immune system have been very pronounced and in many cases statistically significant. An additional effect is thus required to draw the conclusion that Alkymer exerts a biological effect by its own. In this judgment I have found it useful to make a comparison between the two groups of subjects, i.e. those who started with Alkymer and those who started with placebo. If this comparison shows that the examined parameter changes numerically to a higher extent after administration of Alkymer and this trend also remains within each group I draw the conclusion that Alkymer has exerted a biological effect even though statistical significance may be lacking.

The following conclusions are drawn.

- Tables 1,2 Alkymer does not influence the leukocyte counts.
- Tables 3,4 **Alkymer increases the frequency of lymphocytes.**
- Tables 5,6 **Alkymer increases the number of lymphocytes.**
- Tables 7,8 Alkymer does not change the frequency of T-cells.
- Tables 9,10 Alkymer does not change the number of T-cells.
- Tables 11,12 Alkymer does not change the frequency of B-cells.
- Tables 13,14 Alkymer probably does not change the number of B-cells.
- Tables 15,16 Alkymer does not change the frequency of CD4+ cells.
- Tables 17,18 Alkymer probably does not change the number of CD4+ cells.
- Tables 19,20 Alkymer probably does not change the frequency of CD8+ cells.
- Tables 21,22 Alkymer probably does not change the number of CD8+ cells.
- Tables 23,24 Alkymer does not change the CD4+/CD8+ ratio.
- Tables 25,26 Alkymer does not change CD3-, CD16+, CD56+ cells.
- Tables 27,28 Alkymer does not change ConA-induced mitogenic activity.
- Tables 29,30 **Alkymer most likely enhances the oxidative metabolism. This effect seems to remain for 1 month following Alkymer treatment.**
- Tables 31,32 Alkymer does not change the amount of IgG.
- Tables 33,34 Alkymer does not change the amount of IgA.
- Tables 35,36 Alkymer does not change the amount of IgM.
- Tables 37,38 Alkymer does not change the amount of kappa-chains.
- Tables 39,40 Alkymer does not change the amount of lambda-chains.
- Tables 41,42 Alkymer possible reduces the amount of alfa-1 antitrypsin.
- Tables 43,44 Alkymer possibly reduces the amount of alfa-2 macroglobulin.
- Tables 45,46 Alkymer does not change the amount of alfa-1 acidglycoprotein.
- Tables 47,48 Alkymer does not change the amount of C4.
- Tables 49,50 Alkymer does not change the amount of C3c.
- Tables 51,52 Alkymer does not change the amount of C3-activator.

