Supplementary figures

Supplementary figure 1

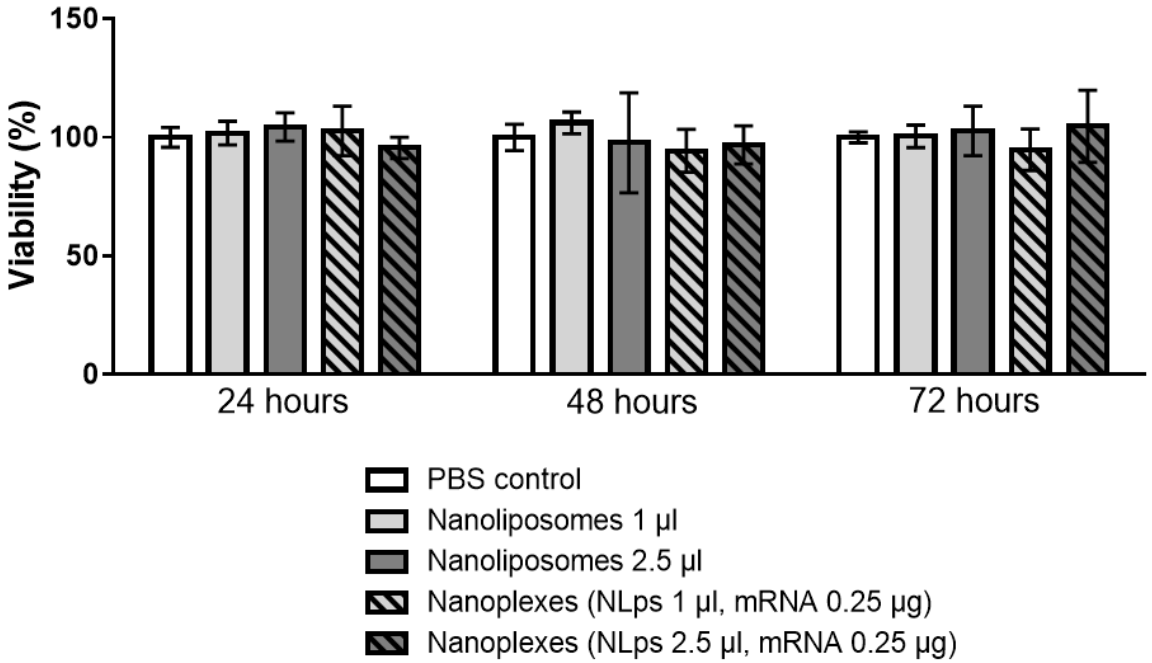

Figure S 1: XTT-Viability test of different amounts of nanoliposomes showing no influence of the transfection on CHO cells. CHO cells were transfected with eGFP mRNA and liposomes. The cell viability was analysed 24 h, 48 h and 72 h after transfection using XTT-test and OD measurement displays no significant difference of the nanoplexes compared to the PBS, NLps and mRNA controls. PBS control was set to 100 % and the different groups were compared by use of repeated measures ANOVA with Bonferroni posttests (mean ± SD, n≥3).

Supplementary figure 2

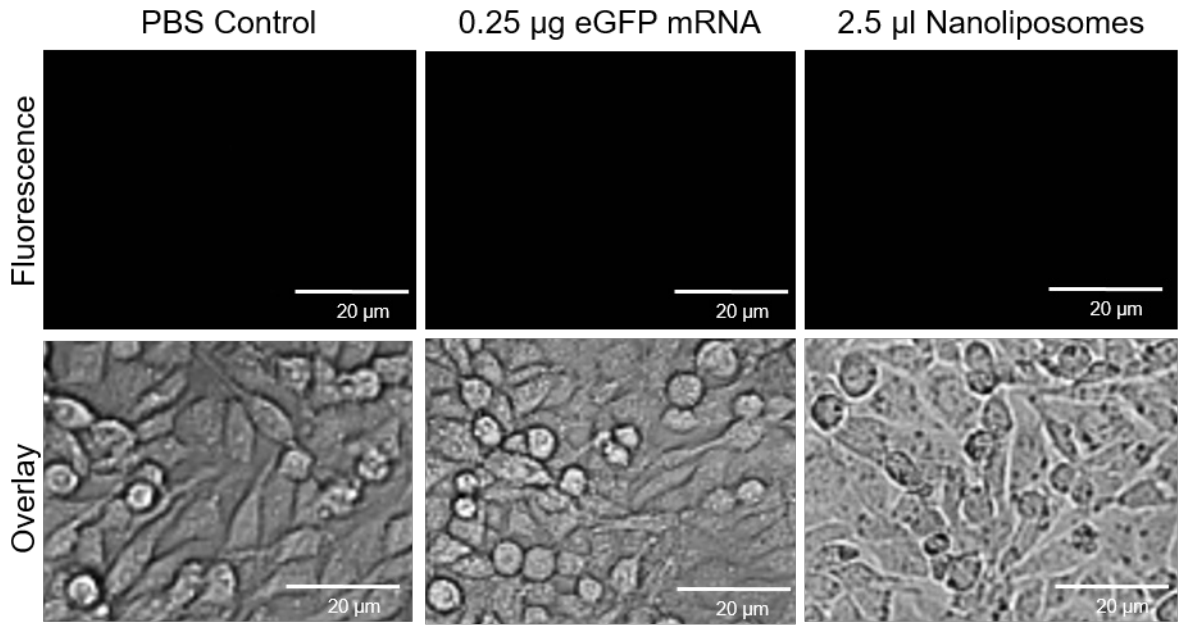

Figure S 2: Microscope analysis controls of transfection efficiency of eGFP mRNA nanoplexes with Media without FBS. CHO cells transfected with eGFP mRNA or nanoliposomes were analysed 24 h after transfection under fluorescent microscope. Representative images at fluorescence and overlay demonstrate no transfection for the controls.

Supplementary figure 3

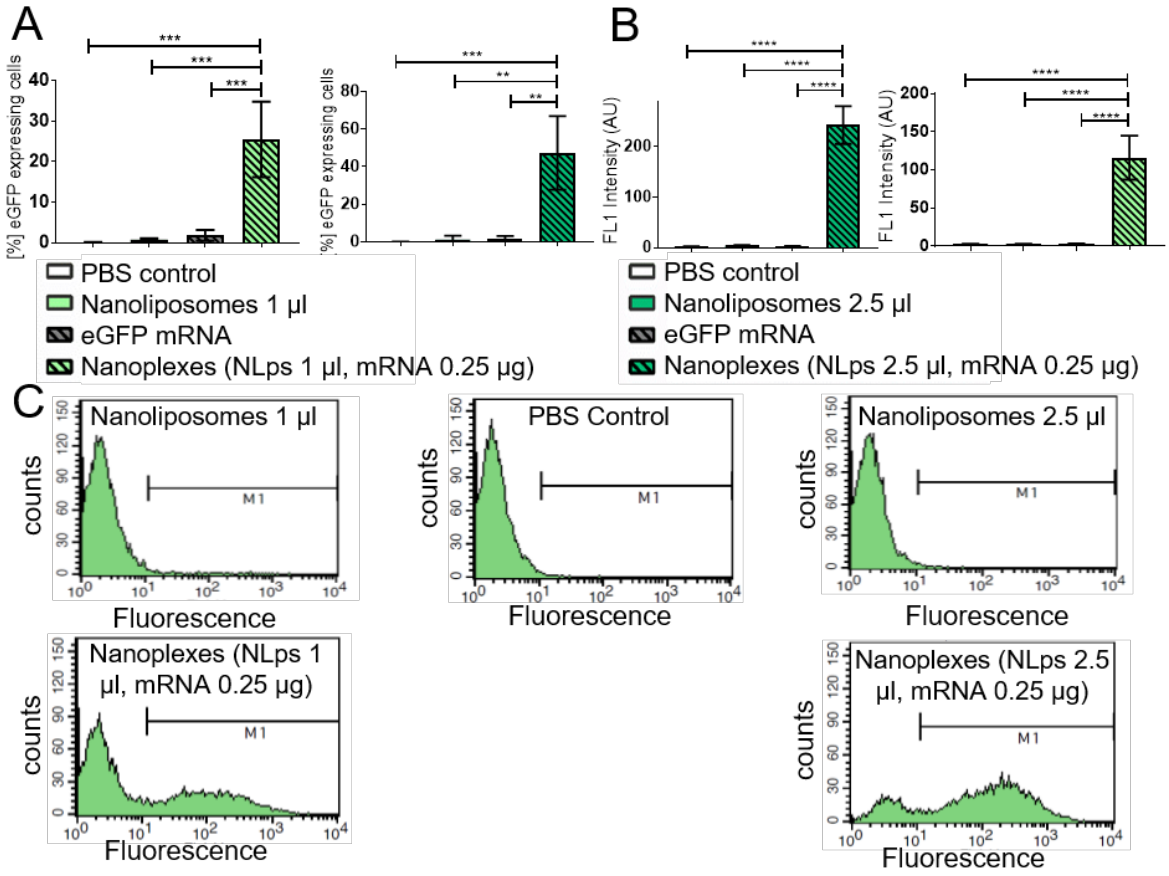

Figure S 3: Flow cytometry demonstrating the transfection efficiency of eGFP mRNA nanoplexes with Optimem in CHO cells. A significant Transfection efficiency could be seen 24 h after transfection with eGFP mRNA using 1 µl **(A)** and 2.5 µl **(B)** nanoliposomes in flow cytometry. The bar graphs depict the % of protein expressing cells as well as the median fluorescence intensity AU. The different groups were compared using repeated measures ANOVA with Bonferroni posttests. **(C)** Representative fluorescence histograms are shown underneath the bar graph (mean ± SD, ** $p < 0.01$, *** $p < 0.001$, ****$p > 0.0001$).

Supplementary figure 4

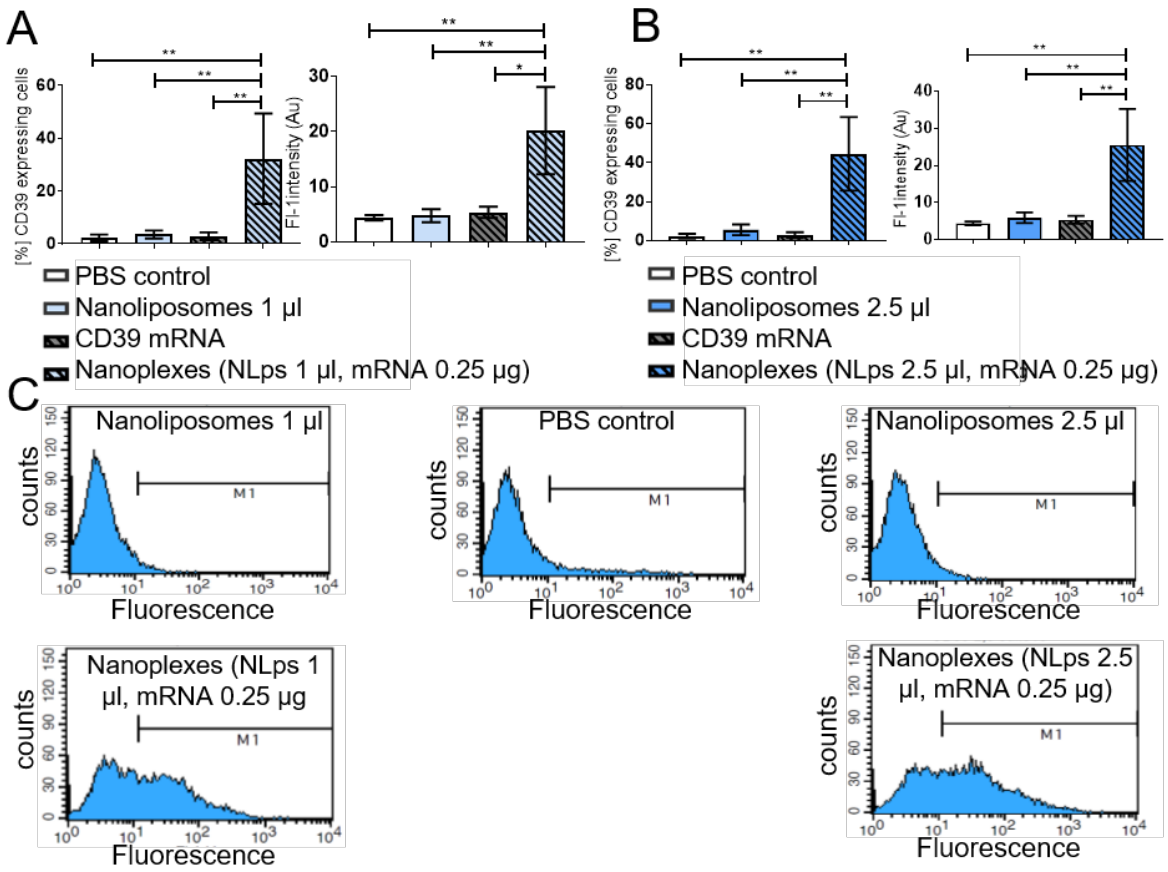

Figure S 4: Flow cytometry demonstrating the transfection efficiency of CD39 mRNA nanoplexes with Optimem in CHO cells. A significant Transfection efficiency could be seen 24 h after transfection with CD39 mRNA using 1 µl **(A)** and 2.5 µl **(B)** nanoliposomes using an anti-CD39-FITC antibody in flow cytometry. The bar graphs depict the % of protein expressing cells as well as the median fluorescence intensity AU. The different groups were compared using repeated measures ANOVA with Bonferroni posttests. **(C)** Representative fluorescence histograms are shown underneath the bar graph (mean ± SD, ** $p < 0.01$, ***$p > 0.001$).

Supplementary figure 5

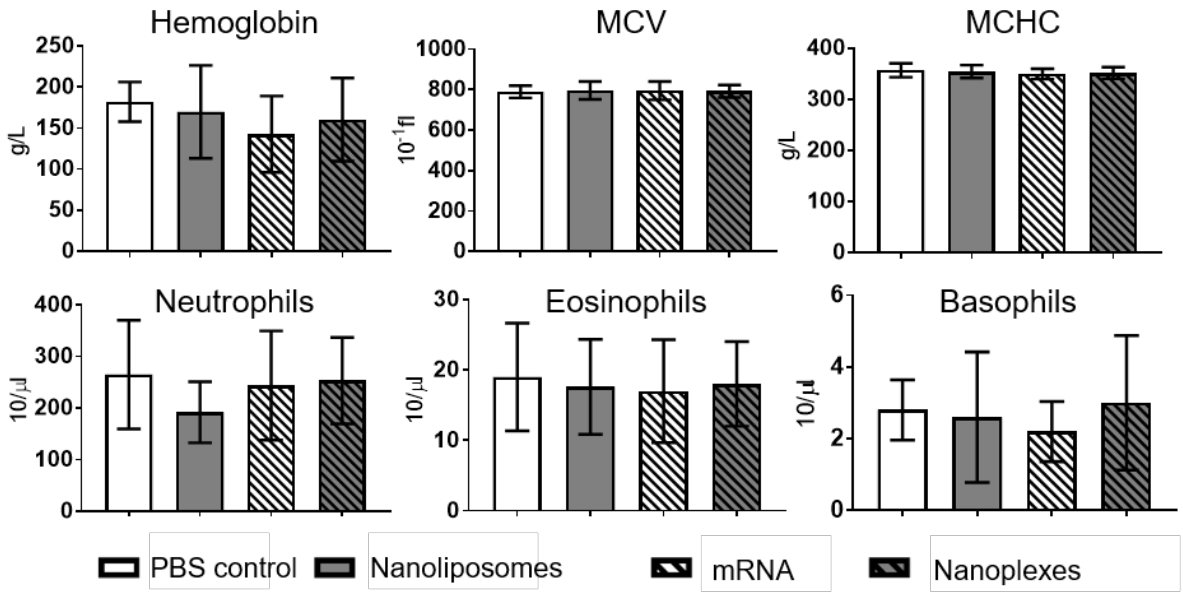

Figure S 5: Hemocompatibility analysis demonstrate no impact of nanoliposomes and nanoplexes on human whole blood after 2 h. The complete blood count was analysed after two hours of incubation of whole human blood incubated with nanoliposomes, mRNA and nanoplexes at 37° C for 4 hrs in total. No significant difference was seen in hemoglobin, mean corpuscular volume (MCV), mean corpuscular hemoglobin concentration (MCHC), neutrophils, eosinophils and basophils. The bar graph was analyzed using repeated measures ANOVA with Bonferroni posttests (mean ± SD, n=5).

Supplementary figure 6

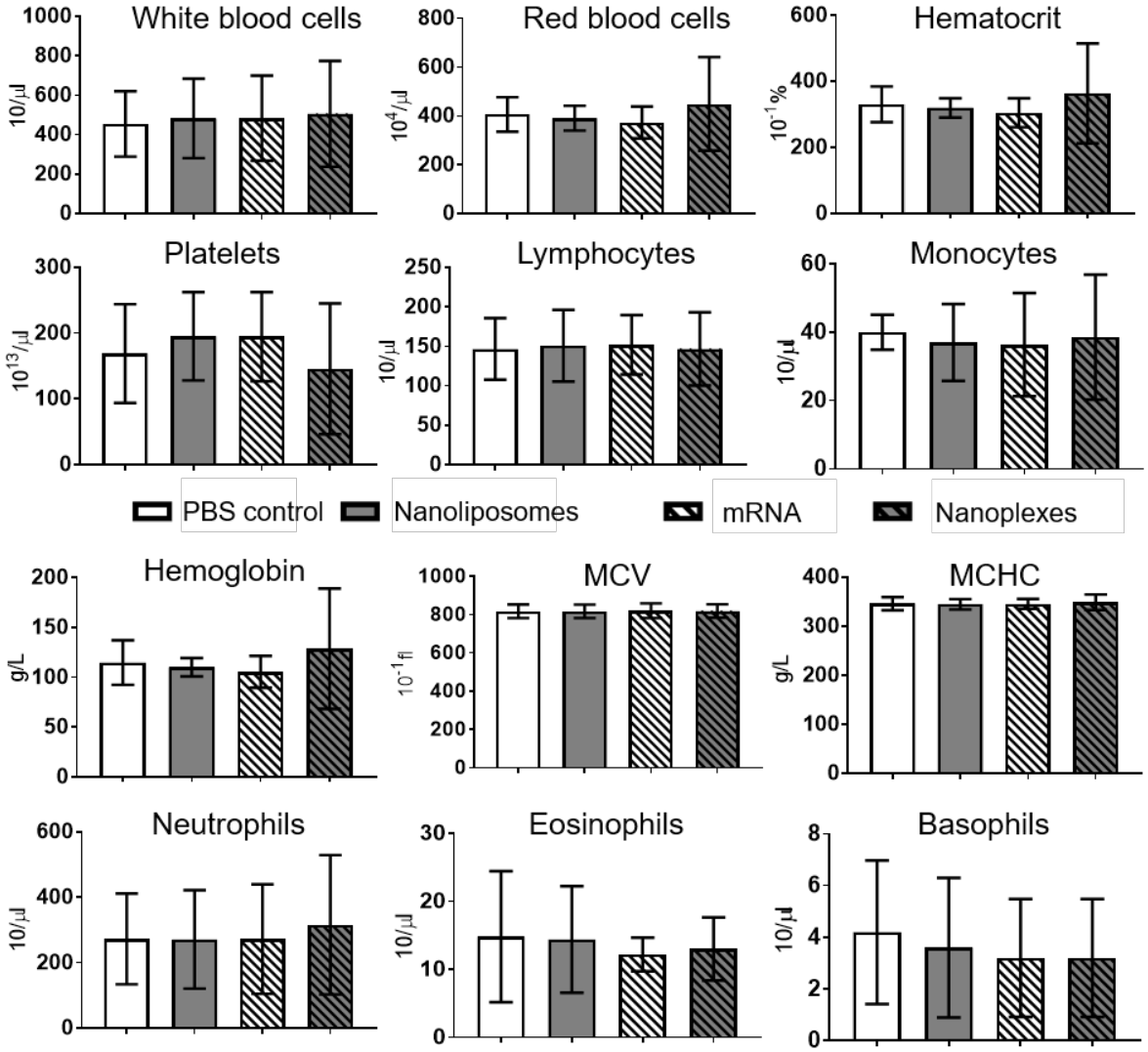

Figure S 6: Hemocompatibility analysis demonstrate no impact of nanoliposomes and nanoplexes on human whole blood after 4 h. The complete blood count was analysed after two hours of incubation of whole human blood incubated with nanoliposomes, mRNA and nanoplexes at 37° C for 4 hrs in total. No significant difference was seen in white blood cells, red blood cells, hematocrit, platelets, lymphocytes, monocytes, hemoglobin, mean corpuscular volume (MCV), mean corpuscular hemoglobin concentration (MCHC), neutrophils, eosinophils and basophils. The bar graph was analyzed using repeated measures ANOVA with Bonferroni posttests (mean ± SD, n=5).