

Abstract

Introduction:

Each year many people die from cancer and it force governments and people high costs. Blood cancer is one of the most common cancers. Although there been a lot of progress in treating blood cancers but it is problematic because of different types of blood cancer and resistant to treatment. In recent year's chemotherapy been a choice treatment but because of high numbers of adverse effects and low selectivity scientists look for new treatments .There been many studies to find new drugs and we probably going to have better choices of treatment in near future. In this study we tried to enhance rituximab antibody by conjugating it to trypsin enzyme.

Methods and materials

In first step, we activated rituximab monoclonal antibody using DSP linker. Then we added same molar ratio of trypsin enzyme to rituximab. Then we put it in refrigerator for 24 hours. Finally, we used TEM and DLS to confirm final product.

Results

In first step, we confirmed the conjugation of trypsin to rituximab using DLS and TEM then we confirmed using cell culture.

Conclusion

Our studies showed that we can conjugate trypsin to a mAb using a DSP. In future studies, we will study the effect of conjugate at cellular studies.

Key words

Drug conjugate, monoclonal antibody, trypsin, DSP, rituximab