



## Prevention of Graft versus Host Disease

### Problem to be solved

Graft versus Host Disease (GVHD) is one of the major complications associated with allogenic transplantation. This immunological illness is caused by donor T cells, which recognize the genetically dissimilar recipient and therefore attack the host's body cells. Approximately 50% of transplantation recipients develop GVHD, irrespective of the generally implemented treatments with immunosuppressive agents. While the acute form of GVHD is normally observed within the first 100 days, the chronic form usually occurs after this time period. At present there is no effective therapy available against GVHD.

### Novel approach

The present invention relates to the prevention of GVHD by a simple treatment of the transplant *ex vivo* prior to implanting into the recipient. For that a well known substance is used, which reduces the activation of stimulated T cells. Remarkably, the pre-incubation of T cells with this substance is sufficient for this effect. Only one single treatment with the substance, which is added at a very low concentration and incubated for a short time, reduces the GVHD significantly, as is shown in the figure. In addition, with the *ex vivo* treatment no side effects are expected.

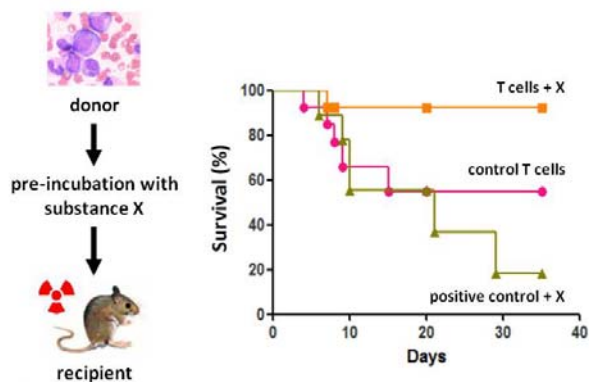


Figure:

The recipient mice were irradiated before transplantation and divided into three groups: The first group was transplanted with allogenic T cells pre-treated with the substance X, the control group with allogenic T cells without a pre-treatment. For the positive control T cells with an impaired X-dependent effector were used. Pre-treated T cells were washed and transplanted.

The GVHD is significantly reduced in the first group with the pre-incubation of T cells.

### Application

We are seeking a cooperation partner for further development of the therapeutic application in humans and for implementation into clinical routine.

### Patent situation

An EP application has been filled.