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# cGMP-Grade Alloantigen-Specific Regulatory T Cells For Cell Therapy In Transplantation

Tech ID: 32024 / UC Case 2011-138-2

## TECHNOLOGY DESCRIPTION

UCSF investigators have developed a cGMP-compliant method to efficiently produce alloantigen-reactive regulatory T cells (arTregs) *ex vivo* for selective immune suppression. The method utilizes isolated patient regulatory T cells (Tregs) that are stimulated by and expanded in the presence of allogeneic B cells. The arTregs may be used to prevent or treat rejection of transplanted cells and organs, and to prevent or treat graft-versus-host disease (GvHD). The method is highly robust, and is one of the first cGMP-compliant approaches to efficiently expanding arTregs.

## ADVANTAGES

- ▶ cGMP-compliant process already reduced to practice
- ▶ Antigen-reactive Tregs are more specific for transplanted tissue than polyclonal Tregs, resulting in improved efficacy and safety
- ▶ Capable of up to 1600 fold expansion of Tregs

## STATE OF DEVELOPMENT

The method has been used to produce arTregs under GMP for several phase 1 trials of kidney and liver transplantation, and the therapy is well tolerated. A phase 2 study in liver transplantation will be initiated in 2020.

## RELATED MATERIALS

- ▶ [Clinical Grade Manufacturing of Human Alloantigen-Reactive Regulatory T Cells for Use in Transplantation](#)
- ▶ [Issued Patent - US9801911B2](#)

## PATENT STATUS

Country	Type	Number	Dated	Case
United Kingdom	Issued Patent	3366768	07/08/2020	2011-138
Switzerland	Issued Patent	2820125	05/09/2018	2011-138
United Kingdom	Issued Patent	2820125	05/09/2018	2011-138
Liechtenstein	Issued Patent	2820125	05/09/2018	2011-138
United States Of America	Issued Patent	9,801,911	10/31/2017	2011-138

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## OTHER INFORMATION

### KEYWORDS

arTreg, alloantigen-reactive  
regulatory T cells,  
transplantation, graft-versus-  
host disease

### CATEGORIZED AS

- ▶ [Biotechnology](#)
- ▶ [Health](#)

### RELATED CASES

2011-138-2

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