



## Method for Identifying Preferred Liver-Transplant Donors (VA Reference No. 00-070)

*Unique genetic-based method for determining predictors of poor outcomes in liver transplantations*

### Technology

Method of identifying a preferred liver transplant donor

### Inventor

Hugo Rosen, M.D.  
Portland VA Medical Center

### Key Features

- Genetic based method for identifying liver transplant donors
- Could improve outcomes of liver transplantation
- Could limit the recurrence of HCV infection in a liver transplant recipient

### Stage of Development

Reduced to practice with successful demonstration in retrospective clinical studies

### Keywords

- Organ transplantation
- Liver disease
  - Hepatitis C virus
  - Outcome predictor

### Patent Status

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### Contact

Lee Sylvers, Ph.D.  
Technology Transfer Program  
Department of Veterans Affairs  
Office of Research & Development (12TT)  
810 Vermont Avenue, NW  
Washington, DC 20420  
Phone: 202-461-1714  
Fax: 202-254-0460  
E-mail: [lee.sylvers@va.gov](mailto:lee.sylvers@va.gov)

### Technology

The Department of Veterans Affairs has developed a method of identifying a preferred liver transplant donor. The method includes determining the presence or absence of a preferred genotype at a polymorphic site in a patient that is associated with altered activity of a tumor necrosis factor. In addition, the method had the potential to limit the recurrence of HCV infection in a liver transplant recipient.

### Description

The VA has identified a genetic-based method for determining predictors of poor outcomes of liver transplantations. The genetic makeup of the donor liver, by virtue of the nature and magnitude of its response to recurrent infection, predicts the outcome of a transplant operation. Specifically, the VA learned that if a patient receives a liver expressing a single mutation with a gene, which encodes an inflammatory factor, a variant found in approximately 20 percent to 25 percent of the general population, the likelihood of that patient developing severe recurrent hepatitis C infection is greater than 50 percent. This finding might influence donor selection and help identify patients who might benefit from alternative approaches.

### Competitive Advantage

Immunosuppressant drugs are typically administered to liver transplant patients to suppress the immune response and to limit organ transplant rejection.

This invention:

- Could prove useful in identifying liver transplant donors whose transplanted liver would limit the severity of recurrence of HCV.
- Could lead to prolonged survival or decreased allograft rejection in liver transplant patients.

### Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license, and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).