VICTR Resource Request > #VR54286

VICTR Funding Era 3

Process

Status:
Closed

Score:

Legacy ID:

Originally Approved:
01/22/2020

Last Approved:
01/22/2020

Next Progress Report:
N/A

Expires:
02/29/2020

Total Requested:
$1,997.20

Total Approved:
$1,997.20

Total Spent:
$0.00

Total Pending:
$1,997.20

Total Remaining:
$0.00

Budget Period #3: Requested: $1,997.20
Approved: $1,997.20
Utilized: $0.00

Budget Period #4: Requested: $0.00
Approved: $0.00
Utilized: $0.00

PI Information

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Department:
Nephrology - 104375

PI Job Title:
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PI Other Job Title:

Degree:

Ph.D.

Institution:
Vanderbilt Medical Center

School of Primary Appointment:
School of Medicine

Area of Expertise:
Tissue Engineering

Mentor Name:
Lauren Woodard

Study Personnel

Vunet	First Name	Last Name	Role
bejoyj	Julie	Bejoy	PI
bejoyj	Julie	Bejoy	Primary Contact
woodarle	Lauren	Woodard	Mentor

Project Information

Title:
Brain organoids from human induced pluripotent stem cells

Does your research involve human subjects?:
No

Will your study include a clinical intervention or require clinical space, clinical supplies, clinical services or research-related orders placed in eSTAR (Epic)?:
No

Have you submitted this research proposal to the Vanderbilt IRB?:
NA

Explain why not applicable:
The study does not involve human subjects.

eSMART Number:

Billing Plan ID:

Who is responsible for the statistical plan in your research proposal:

Share

Back to Search Results

Genome engineering of stem cells for kidney regeneration

Project Number	Contact PI/Project Leader	Awardee Organization
5I01BX004845-03	WOODARD, LAUREN ELIZABETH	VETERANS HEALTH ADMINISTRATION

Description

Abstract Text

We propose to develop a regenerative gene and cell therapy treatment for acute kidney injury and/or chronic kidney disease. These studies are based on recent advances in isolation of adult stem cells from the urine. Urine-derived stem cells have several remarkable properties: they are easy to obtain, propagate for many passages, are multipotent, and home to sites of injury. We propose to genome modify urine-derived stem cells and track their homing in three mouse models of kidney injury (ischemia reperfusion, rhabdomyolysis, and aristolochic acid). Cells will be modified with transposons to express luciferase. This will permit tracking in live animals by optical imaging together with new techniques for advanced tomography. Biomarkers for kidney injury will be measured and compared. Histology and marker analysis will determine if stem cells have an effect on the mouse phenotype for each condition. Aim 1 seeks to compare outcomes for mice receiving urine-derived stem cells vs no treatment. In Aim 2, urine-derived stem cells will be reprogrammed into induced nephron progenitor cells and compared to past methods of deriving induced nephron progenitor cells. These cells are unique because they are similar to cells found in the cap mesenchyme and are capable of differentiating into all parts of the nephron. These aims will determine if allogeneic or autologous stem cell transplant therapies based on urine- derived stem cells may have the ability to reverse or delay kidney damage in mouse models of acute kidney injury or chronic kidney disease.

Public Health Relevance Statement

Acute kidney injury is a major cause of morbidity and mortality in the Veteran population, affecting 22% of Veterans admitted to VA intensive care units. Those who survive acute kidney injury may never regain full renal function, resulting in chronic kidney disease or end-stage renal disease. One in seven people in the United States has chronic kidney disease. Patients with end-stage renal disease require dialysis or kidney transplantation for survival. Kidney regeneration is poor following acute kidney injury and there are no treatments available at this time to directly encourage regeneration. New treatments that target regeneration of the kidney are needed because the mammalian kidney is comprised of a limited set of nephrons that are present at birth and lost over time, never to be regained, so renal injuries are permanent. We seek to explore the use of adult stem cells for kidney regeneration.!

Project Terms

Acute Renal Failure with Renal Papillary Necrosis · Adult · Affect · Allogenic · Animal Model · Animals · Aristolochic Acids · Autologous Stem Cell Transplantation · Biological Markers · Birth · Cell Line · Cell Therapy · Cells · Cessation of life · Chronic Kidney Failure · Clinic · Clinical · Data · Development · Diagnosis · Dialysis procedure · Doxycycline · Embryo · End stage renal failure · Engraftment

Epithelial Cells Ethics Exhibits Fetal Development Fetus

Firefly Luciferases Foundations Gene-Modified Genetic Diseases

Read More

Details

No information available for 5I01BX004845-03

Sub Projects

No Sub Projects information available for 5I01BX004845-03

Publications

Disclaimer

No Publications available for 5I01BX004845-03

Patents

No Patents information available for 5I01BX004845-03

Outcomes

The Project Outcomes shown here are displayed verbatim as submitted by the Principal Investigator (PI) for this award. Any opinions, findings, and conclusions or recommendations expressed are those of the PI and do not necessarily reflect the views of the National Institutes of Health. NIH has not endorsed the content below.

No Outcomes available for 5I01BX004845-03

Clinical Studies

No Clinical Studies information available for 5I01BX004845-03

News and More

Related News Releases

No news release information available for 5I01BX004845-03

History

No Historical information available for 5I01BX004845-03

Similar Projects

No Similar Projects information available for 5I01BX004845-03