Multiple Sclerosis Fact Sheet

CIRM funds many projects seeking to better understand multiple sclerosis and to translate those discoveries into new therapies.

**Description**

Multiple sclerosis occurs when the body’s own immune system attacks the cells that surround and protect neurons. This protective covering is called myelin. As people lose myelin surrounding their nerves they start feeling weak or having trouble walking. Over time the disease progresses and people may end up with more severe symptoms including paralysis. About 400,000 people are living with MS in the U.S.

Some groups have had success treating MS using bone marrow transplants. In this approach, powerful chemotherapy agents eliminate a person’s bone marrow cells, which include the blood-forming stem cells that produce the entire blood system including immune cells. The doctors then transplant in fresh bone marrow cells that repopulate the person's blood system with immune cells that won't attack the myelin.

Although some people have been successful with this approach, the bone marrow transplant itself is extremely risky.

CIRM funded researchers have been trying to mature stem cells into a type of cell that might be able to replace the missing myelin. The idea is that these could be transplanted into a person with multiple sclerosis, and the cells would repair damage caused by the disease.

Other groups have been trying to learn more about how the body’s natural process should be repairing the damage. Their goal is to find drugs that could stimulate the body’s own stem cells to replace the damaged myelin.

**CIRM Grants Targeting Multiple Sclerosis**

<table>
<thead>
<tr>
<th>Researcher Name</th>
<th>Institution</th>
<th>Grant Title</th>
<th>Grant Type</th>
<th>Award Amount</th>
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<tbody>
<tr>
<td>Thomas Lane</td>
<td>University of California, Irvine</td>
<td>Human Embryonic Stem Cells and Remyelination in a Viral Model of Demyelination</td>
<td>SEED Grant</td>
<td>$368,081</td>
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<td>Samuel Pleasure</td>
<td>University of California, San Francisco</td>
<td>Human stem cell derived oligodendrocytes for treatment of stroke and MS</td>
<td>Comprehensive Grant</td>
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<tr>
<td>Craig Walsh</td>
<td>University of California, Irvine</td>
<td>Multiple Sclerosis therapy: Human Pluripotent Stem Cell-Derived Neural Progenitor Cells</td>
<td>Early Translational III</td>
<td>$4,535,005</td>
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<td>Peter Schultz</td>
<td>Scripps Research Institute</td>
<td>Targeting Stem Cells to Enhance Remyelination in the Treatment of Multiple Sclerosis</td>
<td>Early Translational III</td>
<td>$2,559,333</td>
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<td>Total: $9,921,654.00</td>
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**CIRM Multiple Sclerosis Videos**
News and Information

- Mending the Mind (CIRM)
- Could stem cells reverse MS? (UC Irvine)
- CIRM Research blog entries on multiple sclerosis

Resources

- NIH: Multiple Sclerosis Information
- Find a clinical trial near you: NIH Clinical Trials database
- National Multiple Sclerosis Society
- Multiple Sclerosis Foundation
- Multiple Sclerosis Association of America
- Guthy Jackson Charitable Foundation
- Stem Cell Network multiple sclerosis page
- Family Caregiver Alliance
- National Family Caregivers Association

Find Out More:
Stem Cell FAQ | Stem Cell Videos | What We Fund

Source URL: https://www.cirm.ca.gov/our-progress/disease-information/multiple-sclerosis-fact-sheet