

Rymdstyrelsen  
Swedish National Space Agency

SRS meeting 2022

Karolinska Institutet

# Mechanisms behind skeletal muscle and immune system alterations during spaceflight

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What

Effects of space stressors on the human body


- 🚀 Focus on skeletal muscle and immune system
- 🚀 Understand the mechanisms → Genes
- 🚀 Prevent alterations → Countermeasures

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## How

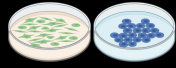
### Models






ESA



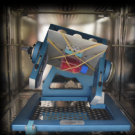
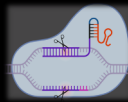

Marzani-Neser et al. 2016




### Methods

Jülich Supercomputing & Plasma

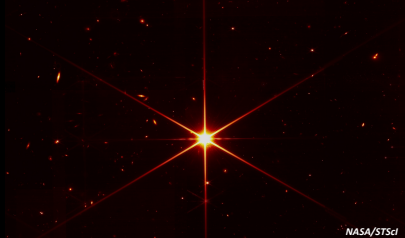
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## Why

Support safe and successful human deep space exploration → Moon and Mars

- 🌟 Biomarkers of skeletal muscle and immune system deconditioning → *identify and predict changes*
- 🌟 Determine individual variability in space-induced muscle and immune changes → *personalized treatment*
- 🌟 Improve current and search for new countermeasures → *prevent muscle and immune dysfunction*



NASA/STScI

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