

Treatment For Sarcopenia



Background

- Sarcopenia is the age-related loss of muscle mass and strength
- Activity of the sarcoplasmic reticulum (SR) Ca-ATPase (SERCA) is reduced in aging skeletal muscle

Age-related muscle atrophy and weakness

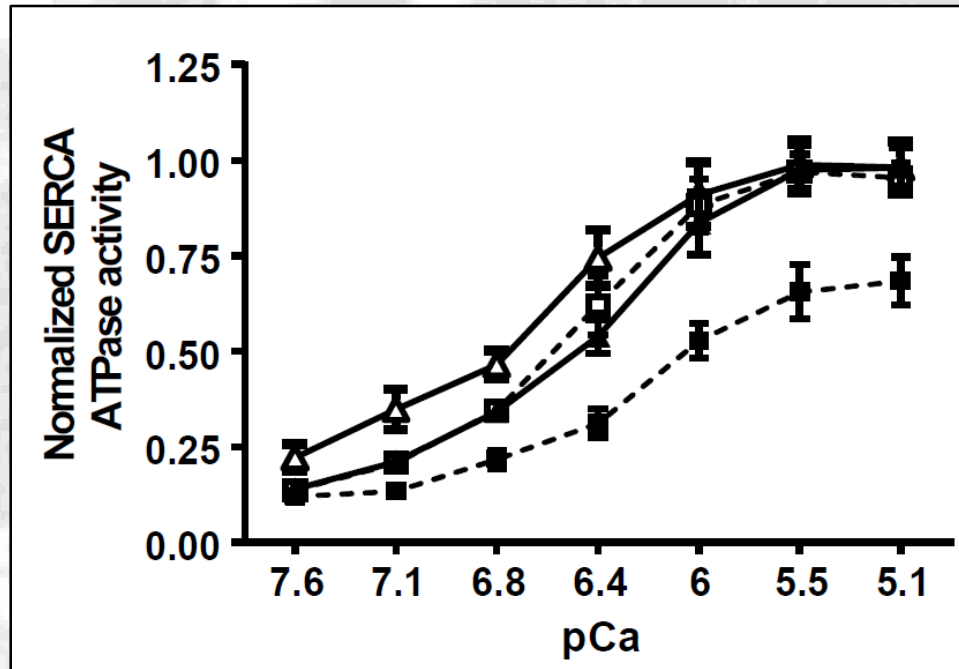
Problem

Currently, there are no effective pharmacological treatments to reduce the impact of sarcopenia due to a poorly understood mechanism

OMRF's Solution

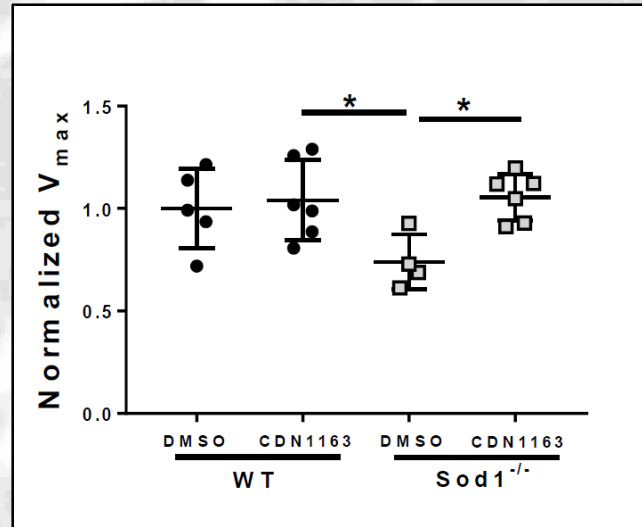
Treatment with CDN1163 increased gastrocnemius muscle mass in a mouse model of accelerated sarcopenia through activation of the sarcoplasmic reticulum (SR) Ca-ATPase (SERCA)

Data



SERCA ATPase activity in gastrocnemius muscles of WT and Sod1^{-/-} mice treated with CDN1163 or vehicle for 7 weeks. CDN1163 restored the SERCA ATPase activity in the sarcopenic Sod1^{-/-} mice

Data



SERCA ATPase activity in gastrocnemius muscles WT and sarcopenic $Sod1^{-/-}$ mice treated with CDN1163 or vehicle for 7 weeks. CDN1163 restored SERCA ATPase activity.

Summary

Dr. Van Remmen has discovered that reduced function of the SERCA pump contributes to muscle atrophy and the pharmacological stabilization of SERCA with CDN1163 can reverse these effects

- SERCA activity is decreased by 27% in gastrocnemius muscle from Sarcopenic *Sod1*^{-/-} mice compared to wild type mice
- Treatment with CDN1163 increased gastrocnemius muscle mass in *Sod1*^{-/-} mice by 23%

Holly Van Remmen, Ph.D.

Member and Program Chair

[Aging & Metabolism Research Program](#)

