An interesting brief study testing the effects of a combination of pro-longevity drugs (rapamycin, acarbose, phenylbutyrate) in a single cocktail and their effects on grip strength and rotarod. Overall, it appears this combination has beneficial effects on these outcomes, though some clarity could improve the manuscript.

1.      Due to the brief nature of the submission, there is no formal methods section. However, a few items do need clarity even without the methods.

a.      What was the sample size for each group?

b.      What was the actual protocol (i.e., speed) for the rotarod? This can make a big difference on repeatability

c.      Grip strength – was this forepaw, all paws? Was it an average of a number of repeated measurements for a single animal, or the maximum for an individual animal tested a number of times, or simply just a single test?

2.      Data analysis – Unclear how data analyzed since a t-test compares only two groups and there are three in each sex tested? ANOVA more appropriate here. Were differences in sex formally tested or just noted that relatively similar outcomes?

3.      Were concentrations of each compound measured in the blood? There is some evidence that combinations of drugs might reduce the overall concentration of each (see PMCID: PMC5892694).