Reviewer's report

Title: Muscle wasting associated with pathologic change is a risk factor for the exacerbation of joint swelling in collagen-induced arthritis in cynomolgus monkeys

Version: 2 Date: 8 April 2013

Reviewer: Vivian Teixeira

Reviewer's report:

# Major Compulsory Revisions

The authors focused on weight and muscle loss caused by a experimental model of inflammatory arthritis. This manuscript shows very interesting results related to this pathology, including food intake, body weight and muscle histopathology alterations. However, there are some issues that should be discussed:

# The methodology has no references. These are most important for the animal model, scoring for the development of arthritis and muscle histopathology.

# For the arthritis induction, the authors used two immunizations with complete Freund’s adjuvant, and in two weeks after the second immunization arthritis score reached its peak. Would not this development be less aggressive and more slow, therefore more chronic, if the second injection was performed with incomplete Freund’s adjuvant?

# How was muscle histopathology analyzed? Was a blind pathologist involved in this study? In the results section, there are statements of the presence of necrosis, degeneration, regeneration and atrophy of muscle fibers, but there were no descriptions of how it was evaluated, nor in the methods. Please add the information.

# There is no description of the statistical analysis performed by the authors in the methods section. Please include the sample size calculation, tests performed and power of the analysis.

# Although other cytokines were measured in serum from the animals, only the result of IL-6 was presented. Please add in the results if the other cytokines were not detected, like TNF-alpha, or if they were altered in some period.

# Minor Essential Revisions

# Page 7, last paragraph: there is the description of joint score from 0 to 4, but score 2 is missing. Please add the information.

# Discretionary Revisions

# This reviewer finds a correlation of R² = 0.37 a weak correlation. The authors could be less emphatic in relation to how this data is interpreted.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

This reviewer has no competing interests in relation to this manuscript.