Reviewer’s report

Title: Vertical bone regeneration using rhBMP-2 and VEGF

Version: 0 Date: 13 Feb 2017

Reviewer: Benjamin Kruppke

Reviewer's report:

The manuscript: "Vertical bone regeneration using rhBMP-2 and VEGF" represents a high quality work in the field of bone defect treatment. The introduction gives a nice overview of the current state of the art in treatment of bone defects in dentistry and maxillofacial surgery. Particularly positive are the postulates at the end of the introduction.

In general it has to mentioned, that the use of rh-BMP-2 and VEGF is nothing completely new and it should be questioned if the intended outcome of the animal experiment and the outcome presented here justifies suffer and death of 108 animals. The used amounts of cytokines are quite high and (unfortunately) the selected material, ICBM, shows a quit good bone regeneration itself. Nevertheless, carrier systems have to be investigated, but data about release / stability of the cytokines in vitro are missing and not cited, as far as i recognized.

Some minor points to be adressed:

The Numbers given in the manuscript have 2 decimal places, representing an accuracy, which is for me incomprehensible, not necessary for discussion and questionable with respect to the measurement method. In addition, the standard deviations are quite high, wherefore the second decimal place has no meaning at all.

Page 11, Line 10: "Significant difference was calculated" Please reword this part. The are calculations nesessary to judge on a siginicancy of the difference, but the difference itself is not calculated.

Page 11, Line 14-17: This is a part I would like to know more about (data?) since it seems advantegous for planning animal experiments. Those observations should be emphasized to reduce redundant and unnecessary animal experiments.

I would suggest to use bar charts insted of line charts, to incluede standard deviations. Groups of Ctr, ICBM, ICBM+..., on the x-axis and the weeks as legend in diferent colors would be more instructive.

Page 15, Line 11: "et al.: and others" can be deleted.
Figure 1 and 2: Please insert some arrows etc. to indicate regions of interest and explain them in the figure caption. Some histological relevant parts, tissues, cells might be helpful to interprete the images.

All in all a very good discussion and good conclusion.

Best regards.

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An article whose findings are important to those with closely related research interests

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