

Manuscript title: Hydroxyapatite/calcium alginate composite particles for hemostasis and alveolar bone regeneration in tooth extraction wounds

My decision: Major Revisions

Basic reporting

The writing of this manuscript is clear and understandable. The introduction is written well and emphasizes the research purpose of this manuscript.

Experimental design

This study has a clear theme that should appeal to readers; however, there are several flows of experimental designs needing to be addressed. My specific concerns related to the experimental design are located in the "additional comments".

Validity of the findings

The findings of this manuscript are confirmed to be valid. However, are there any potential clinical transfer values of these findings for future research? I suggest that the clinical transfer values of these findings should be particularly emphasized in the discussion.

Additional comments:

- ① Figures 1B and E did not match. Figure 1B should be magnified.
- ② There are only pictures of the hydrogel state of the material when it is not freeze-dried. Images of particles after freeze-drying should be provided.
- ③ The images of SA and nSA hydrogel states under the microscope should be supplemented.
- ④ It should be recommended to supplement the identification of each region and the meaning of the representative in the histological staining section.
- ⑤ The central incisors of SD rats grow throughout their lives. Are they going to grow again after tooth extractions in the experiment? If so, is the experimental result reliable?
- ⑥ SD rats' central incisors are very easy to break. How did the authors ensure the tooth extraction model's success? Also, what is the success rate?
- ⑦ The hemolysis rate experiment is recommended to be carried out to demonstrate the hemostatic material's biological safety.

⑧ The methods regarding the ALP and ARS experiments are too simplified and thus need to be expanded.