Supplementary Information

Title Page

Platelet-rich plasma enhances the repair capacity of muscle-derived mesenchymal stem cells to large humeral bone defect in rabbits

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| Bone connection       | Items                                                                 | Score |
|----------------------|----------------------------------------------------------------------|-------|
| No connections       |                                                                       | 0     |
| Fibrous connections  |                                                                       | 1     |
| Connections of bone  | Connections of bone and bone-like tissue                            | 2     |
|                      | Connections of bones                                                 | 3     |
|                      | Complete bone regeneration                                          | 4     |
| Cancellous bone      | No activity of osteocytes                                            | 0     |
|                      | Early aggregation of new bone                                        | 1     |
| Activity of new bone |                                                                       | 2     |
|                      | Cancellous bone is remoulding                                        | 3     |
|                      | Cancellous bone remoulds completely                                  | 4     |
| Cortical bone        | No growth of cortical bone                                           | 0     |
|                      | Early growth of cortical bone                                        | 1     |
| Cortical bone        | Cortical bone is remoulding                                          | 2     |
|                      | Most Cortical bone completes remoulding                              | 3     |
|                      | Cortical bone remoulds completely                                   | 4     |

**Supplementary Table 1.** Lane-Sandhu histological evaluation scale
For gels/blots quality check

1. Full length picture of original gels/blots (low-contrast)

MyoD1

Cbfa-1

Coll I

β-actin

2. Combination and cropping

Group information:
1. M-MSCs treated with 1% FBS (Hyclone)
2. M-MSCs treated with 10% FBS (Gibco)
3. M-MSCs treated with 10% FBS (Hyclone)
4. M-MSCs treated with PRP.

Group 1. 2. 3 were set to explore the effects of different concentration of FBS or FBS
from different brand on the differentiation of M-MSCs. Due to no significant differences were observed, this part was deleted. The red border stands for the cutline of cropping.