Supplementary Materials

Investigation of the biocompatibility and osteogenic effects of magnesium-doped chloride-containing bioactive glasses

Zechi Ouyang¹, Piao Li¹, Xiaomei Ru¹, Linghao Liu¹, Priyen Shah², Ousheng Liu¹, Robert Hill², Xiaohui Chen³, Xiaojing Chen^{1,2}

¹Hunan Key Laboratory of Oral Health Research and Academician Workstation for Oral-maxillofacial and Regenerative Medicine and Xiangya Stomatological Hospital and Xiangya School of Stomatology, Central South University, Changsha, 410008, Hunan, China.

² Institute of Dentistry, Dental Physical Sciences Unit, Barts and The London School of Medicine and Dentistry, Queen Mary University of London, E1 4NS, UK ³Division of Dentistry, School of Medical Sciences, The University of Manchester, Manchester, M13 9PL, UK.

Correspondence to: Prof. Xiaojing Chen, Xiangya School of Stomatology, Central South University, NO.64 Xiama Yuanling Xiang, Kaifu district, Changsha, 410008, China. E-mail: xiaojing.chen@csu.edu.cn

Supplementary Figures

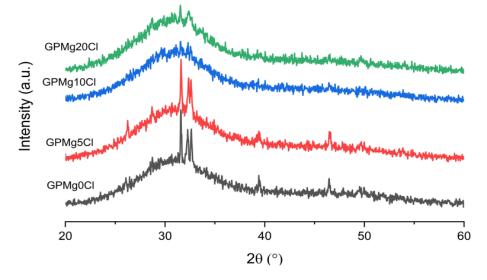


Fig. S1 The XRD patterns of the as-quenched bioactive glasses.

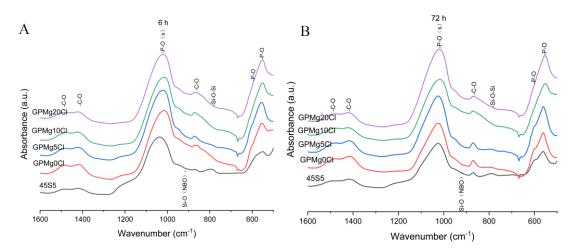


Fig. S2 The FTIR spectra of the collected GPMgCl and 45S5 glass powders at (a) 6h and (b) 72h upon immersion in α -MEM.

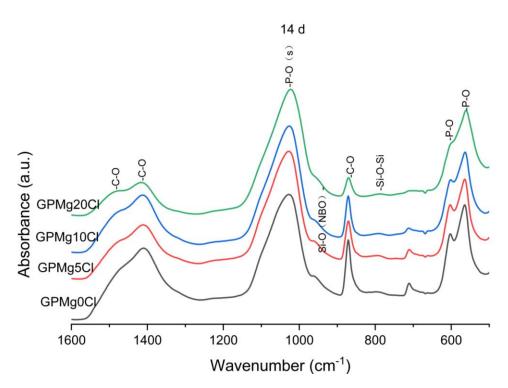


Fig. S3 The FTIR spectra of the collected BG powder after 14 days of immersion in $\alpha\textsc{-MEM}.$

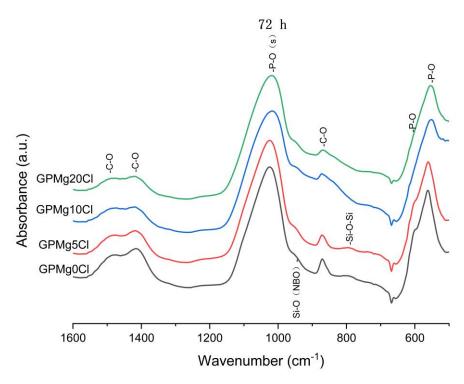


Fig. S4 The FTIR spectra of the collected BG powder after 72 hours of immersion in α -MEM.

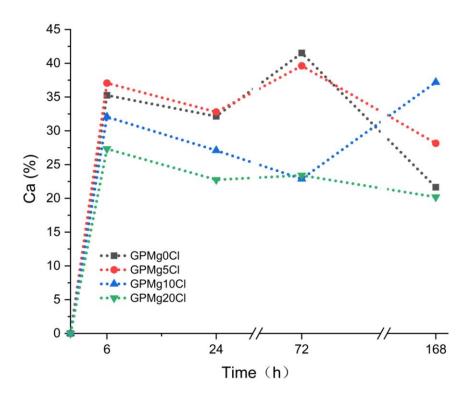


Fig. S5 The concentration of calcium measured after immersion in α -MEM presented as the percentage of the total calcium content in the as-designed glass composition plotted as a function of immersion time.

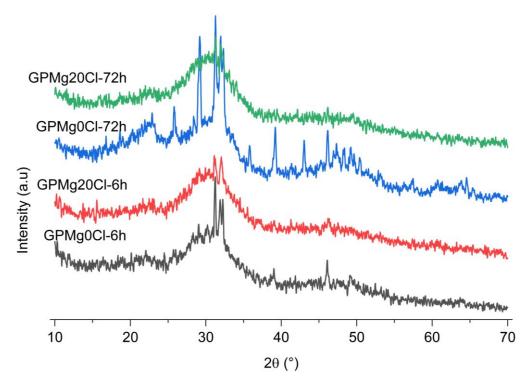


Fig. S6 The XRD patterns of collected GPMg0Cl and GPMg20Cl powders after 6 and 72 hours of immersion in α -MEM.

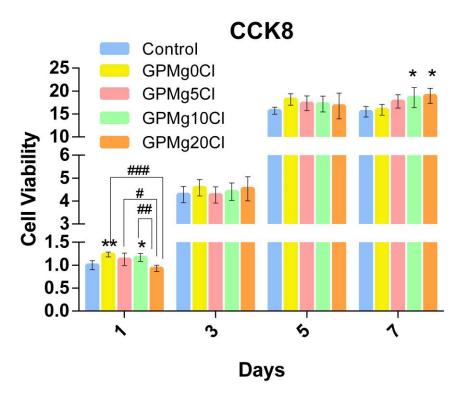


Fig. S7 Cell viability of MC3T3-E1 treated with the extracted BGs-conditioned culture media after 72 hours of immersion assessed by CCK8 assay on days 1, 3, 5, and 7.