Electronic Supplementary Material (ESI) for Materials Advances.

Supplementary information

Biodegradable porous FeMn(-xAg) alloys: assessment of cytocompatibility, mechanical, magnetic and antibiofilm properties

Aleksandra Bartkowska,[a] Oriol Careta,[b] Adam Benedict Turner,[c] Andreu Blanquer,[b] Elena Ibañez,[b] Margarita Trobos,[c] Carme Nogués,[b] Eva Pellicer,[a] and Jordi Sort[a,d]

[a]Departament de Física, Universitat Autònoma de Barcelona, E-08193 Cerdanyola del Vallès, Spain

[b]Departament de Biologia Cel·lular, Fisiologia i Immunologia, Universitat Autònoma de Barcelona, E-08193 Cerdanyola del Vallès, Spain

[c]Department of Biomaterials, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

[d]Institució Catalana de Recerca i Estudis Avançats (ICREA), Pg. Lluís Companys 23, E-08010 Barcelona, Spain

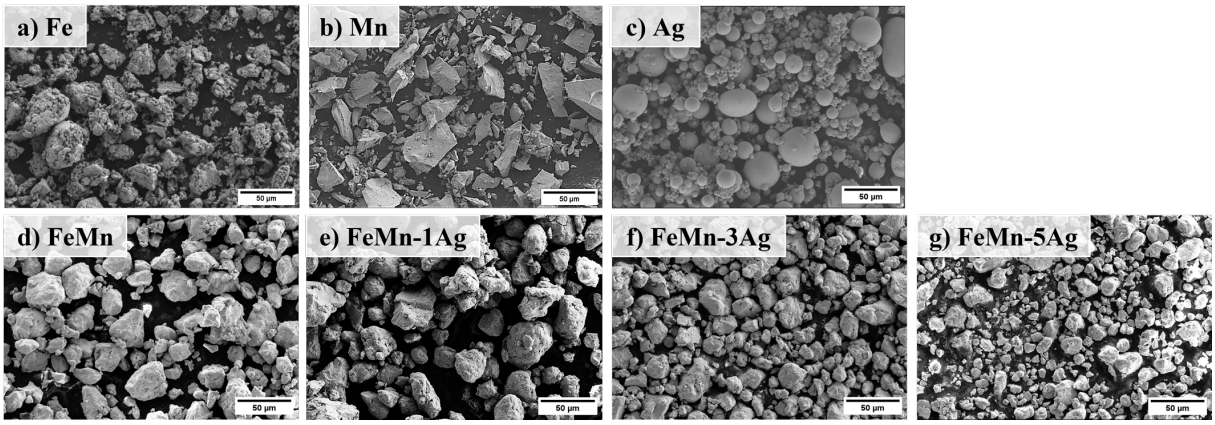

Fig. S1 SEM images of initial powders of Fe (a), Mn (b) and Ag (c) and of ball-milled FeMn (d), FeMn-1Ag (e), FeMn-3Ag (f) and FeMn-5Ag (g) powders.

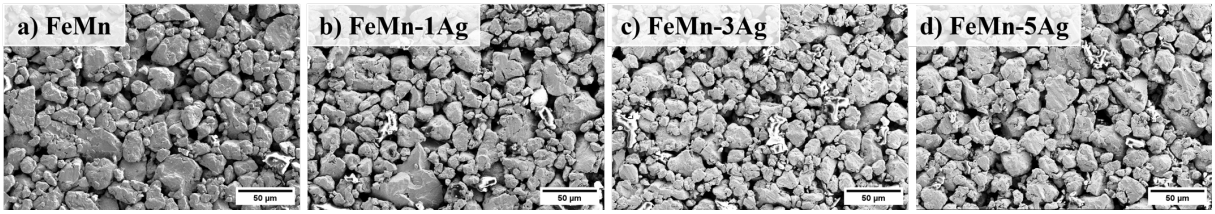

Fig. S2 SEM images depicting the morphology of cold-pressed pellets of FeMn (a), FeMn-1Ag (b), FeMn-3Ag (c) and FeMn-5Ag (d).

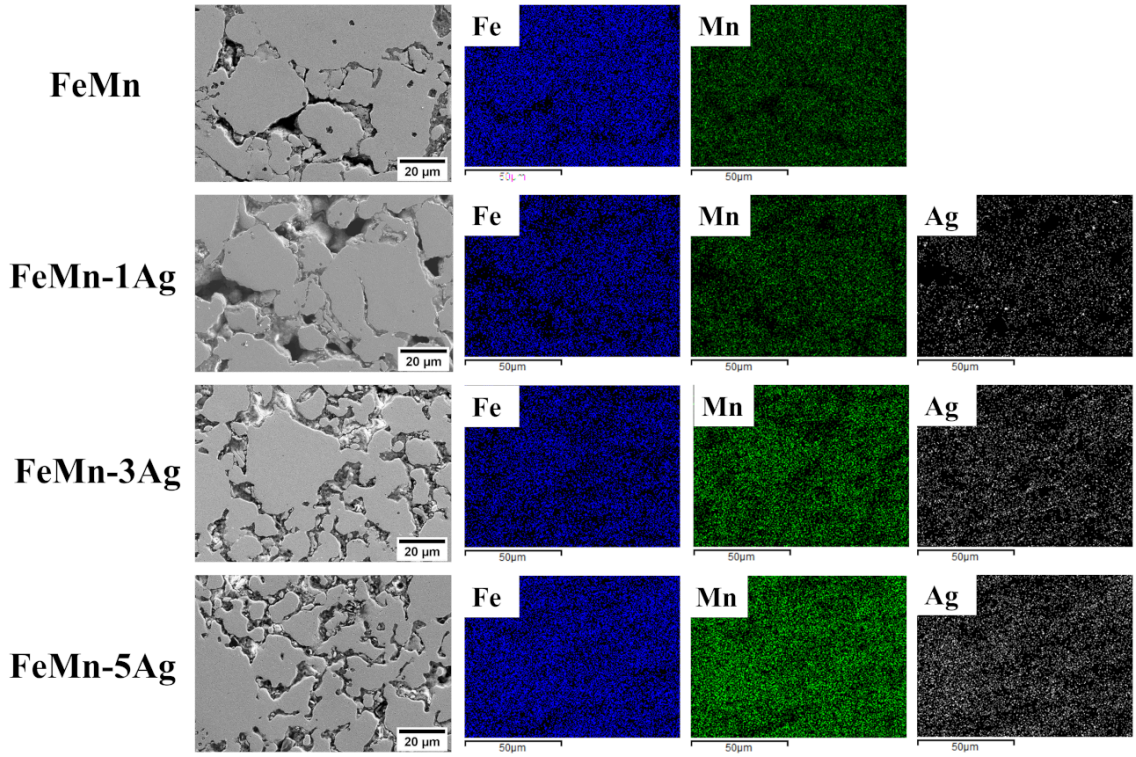

Fig. S3 EDS elemental maps taken on polished surface of FeMn, FeMn-1Ag, FeMn-3Ag and FeMn-5Ag sintered alloys showing distribution of Fe, Mn and Ag.

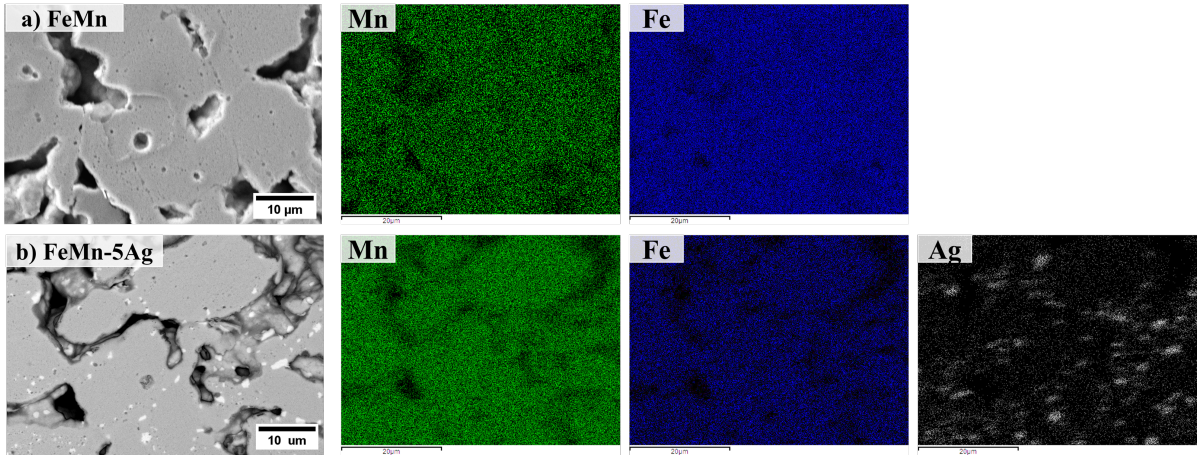

Fig. S4 EDS elemental maps taken on polished cross-sectional surface of FeMn (a) and FeMn-5Ag (b) sintered alloys showing distribution of Fe, Mn and Ag.

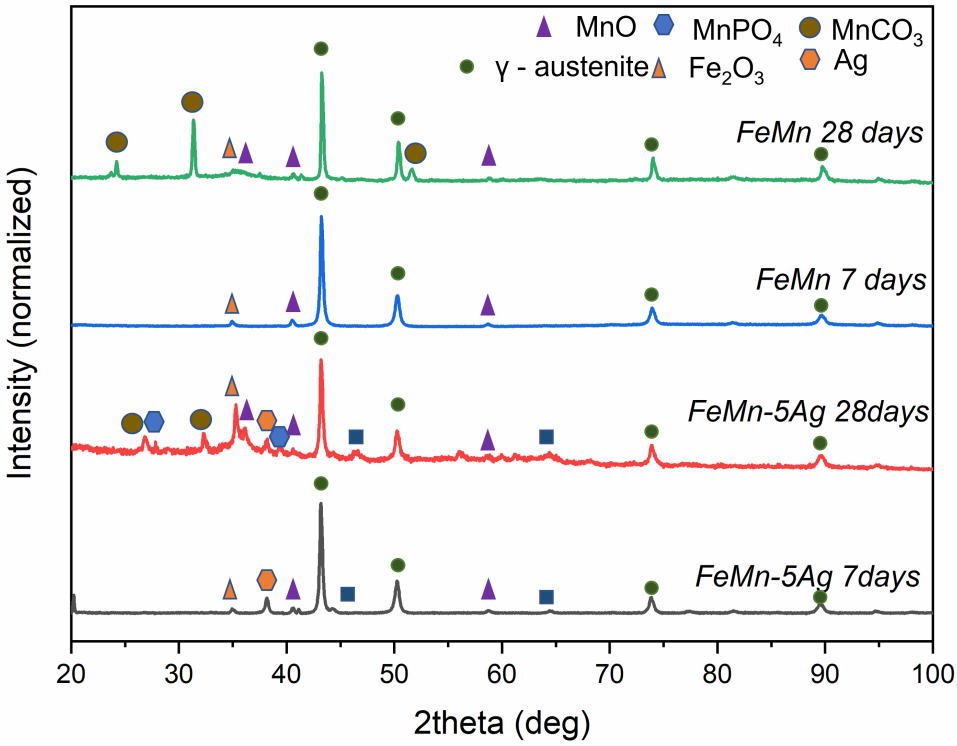

Fig. S5 X-ray diffraction patterns of the FeMn and FeMn-5Ag alloys after immersion in HBSS for 7 and 28 days.

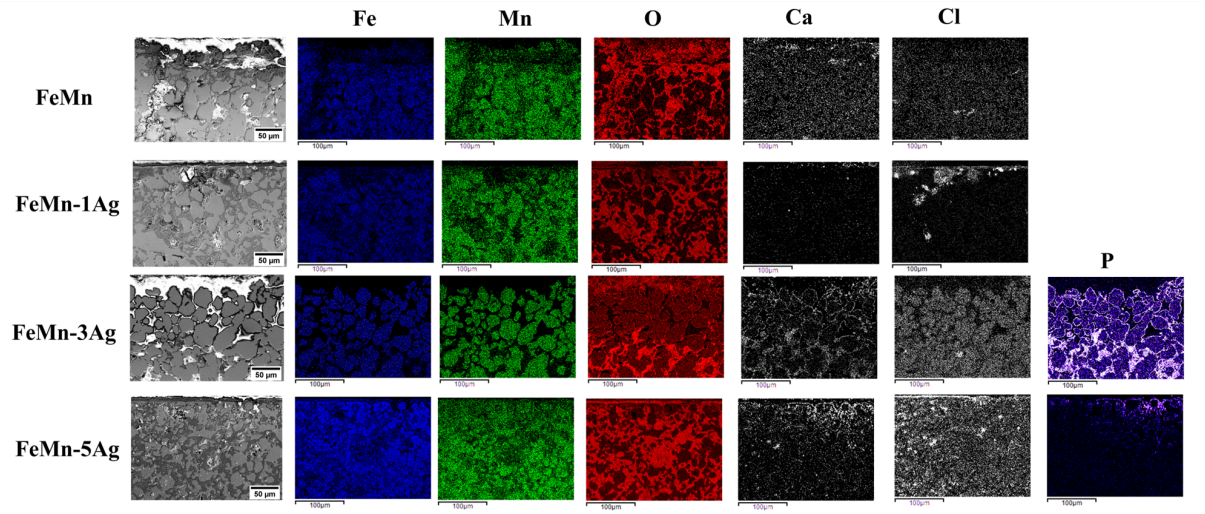

Fig. S6 EDS maps taken on the cross-sections of FeMn, FeMn-1Ag, FeMn-3Ag and FeMn-5Ag alloys immersed for 84 days in HBSS. EDS maps corresponds to the Fe, Mn, O, Ca, Cl and P distribution for the regions showed in micrographs.

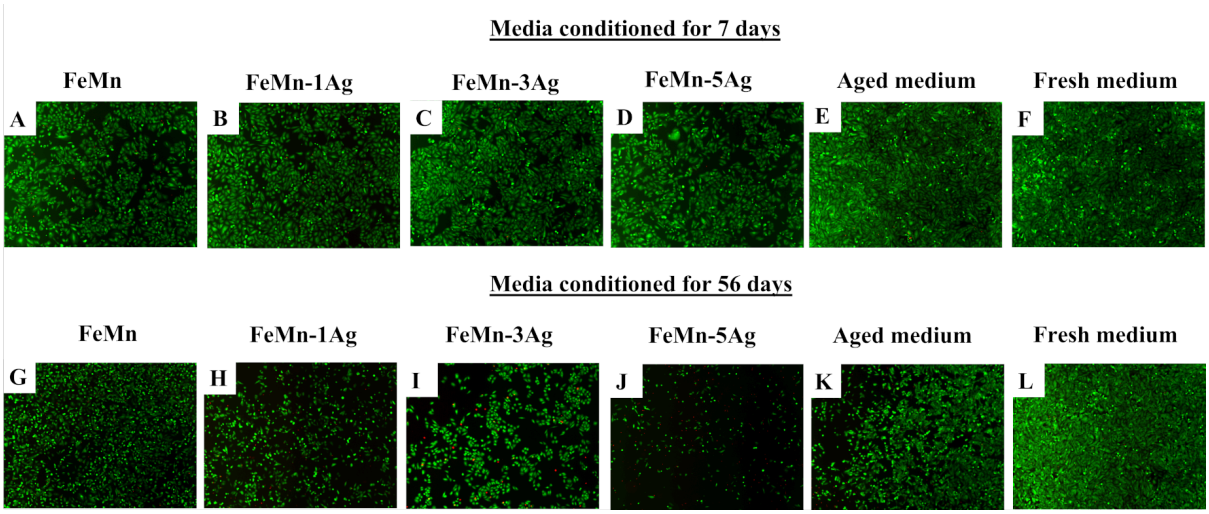

Fig. S7 Cytotoxicity of medium conditioned during 7 (A-F) and 56 (G-L) days with FeMn (A, G), FeMn-1Ag (B, H), FeMn-3Ag (C, I) and FeMn-5Ag (D, J), measured on Saos-2 cells by live/dead fluorescence staining after 3 days culture. An aged medium consisting of medium prepared following the same incubation times and conditions but without any alloy (E, K) and a fresh medium (F, L) were used as controls. Live and dead cells appear in green and red, respectively.