Supplementary information

Bioceramic scaffolds with two-step internal/external modification of copper-containing polydopamine enhance antibacterial and alveolar bone regeneration capability

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Table S1 Element proportion of bioceramic powders

Element	Content (10^{-6})	Mol proportion (%)
Ca	33.01	93.26
Mg	1.43	6.73

Table S2 Concentration of active ions released at different stages of immersion

Time (d)	Ion	Ion concentration (μg/mL)			
		CS	CS*P	CS@PDA	CS*P@PDA
0–1	Ca^{2+}	77.33	74.33	76.17	79.17
	Mg^{2+}	6.52	6.05	4.25	6.07
	Si^{4+}	44	52.5	42.33	58.33
	Cu^{2+}	0.02	0.08	8.65	9.71
1–3	Ca^{2+}	144.17	208.84	125.5	193.33
	Mg^{2+}	7.11	8.78	6.23	6.75
	Si^{4+}	123.5	116.67	92	97.84
	Cu^{2+}	0.03	0.2	0.88	1.3
3–5	Ca^{2+}	193.83	262.5	134.66	178.67
	Mg^{2+}	6.8	6.75	3.9	5.96
	Si^{4+}	67	69.83	56	80.16
	Cu^{2+}	-0.01	0.05	-0.04	0.01

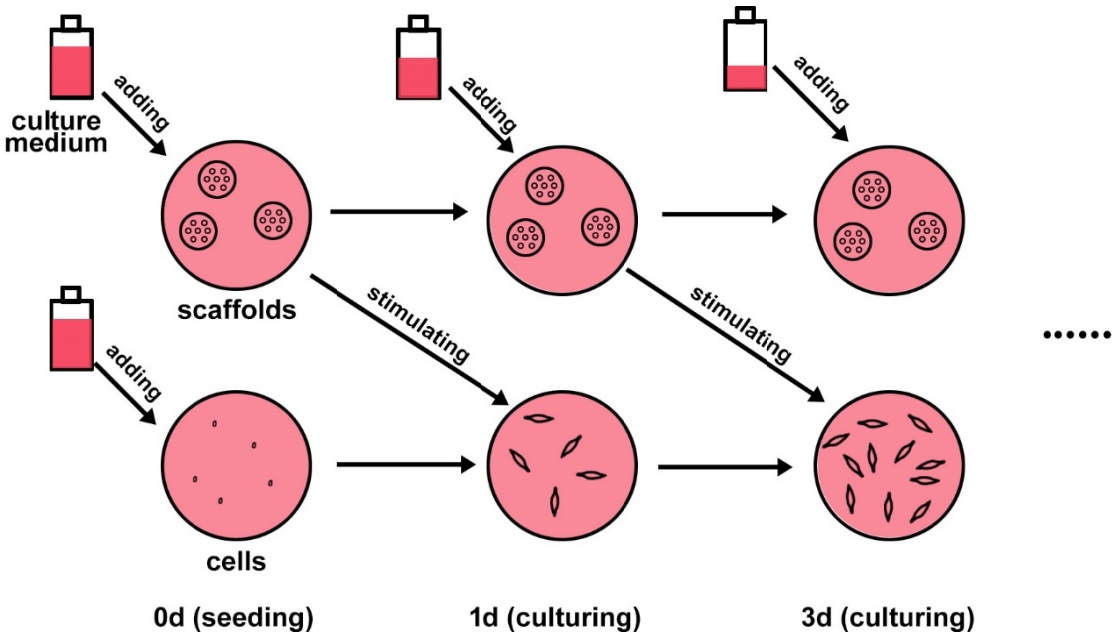

Fig. S1 Schematic diagram of obtaining scaffold extract to stimulate cells. The scaffolds were soaked in culture medium at the ratio of 0.1 g/mL to obtain the extract during the same period of cell seeding (0 d). The next day, the extracts were used to stimulate cells and refreshed every two days. Subsequently fresh culture mediums were added to the extract plate for continue extraction.

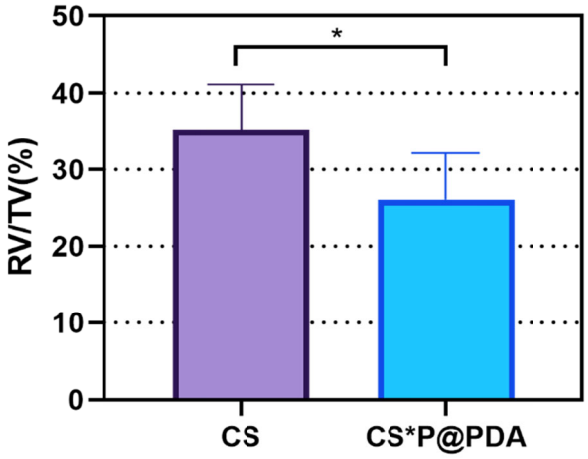

Fig. S2 Residual scaffold volume after four weeks of scaffolds implantation. RV/TV: residual volume/total volume. $^{*}P<0.05$.