Supporting Information

Antibacterial property and cytocompatibility of AgNPs constructed with assistance of Mefp-1 for orthopedics implants

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Table S1 The element concentration and water contact angles of different samples.

	Atomic Concentration （at%）					Contact angle
	C1s	**N1s**	**O1s**	**Ti2p**	**Ag3d**	**(°)**
Ti	-	-	-	-	-	75.5 ± 2.6
MTNT	48.83	10.52	32.85	7.80	-	11.6 ± 2.7
MTNT-Ag1	40.32	7.62	29.25	7.43	6.39	10.7 ± 3.7
MTNT-Ag2	41.55	7.82	33.77	9.96	3.14	10.9 ± 2.3
MTNT-Ag3	42.79	7.58	*33.55*	10.27	2.74	11.3 ± 3.6
MTNT-Ag4	44.95	9.64	32.61	9.15	1.74	12.8 ±3.2
MTNT-Ag5	45.57	9.40	34.61	9.12	0.38	11.8 ± 3.3

Table S2 Bacteria inhibition assay for MTNT-Ag samples.

	S. aureus		***E. coli***	
	Inhibition zone (mm)	**Bactericidal efficiency (%)**	**Inhibition zone (mm)**	**Bactericidal efficiency (%)**
MTNT-Ag1	1.57± 0.06	99.85 ± 0.05	2.47± 0.12	99.85 ± 0.06
MTNT-Ag2	1.47± 0.12	99.69 ± 0.07	2.23± 0.12	99.67 ± 0.12
MTNT-Ag3	1.3± 0.1	96.18 ± 1.06	1.97± 0.06	99.35 ± 0.25
MTNT-Ag4	1.0 ± 0.1	39.27 ± 3.72	1.7 ± 0.1	97.16 ± 1.27
MTNT-Ag5	0.88± 0.03	11.33 ± 1.82	1.23 ± 0.06	42.86± 4.57

Table S3 Antibacterial property and cytocompatibility of AgNPs prepared by different methods.

Particle sizes	Preparation methods	Bacteria	Cell lines	Findings	Ref.
~10 nm	Mefp-1 metallization	G^+/G^-	MC3T3-E1	Amiable for cell adhesion and effective in killing bacteria at the early stage.	-
10-20 nm	Ultraviolet light radiation	G^+	Rat osteoblasts	Long-lasting antibacterial effects (up to 30 d) with some cytotoxicity.	1
~50 nm	Plasma electrolytic oxidation	G^-	MC3T3-E1	Remarkable antibacterial effects with some cytotoxicity	2
~50 nm	Mussel-inspired metallization	G^+	MG-63	Long-lasting antibacterial effects (up to 28 d) with good cytocompatibility.	3
50-70 nm	Mussel-inspired metallization	G^+/G^-	Mouse fibroblasts	Remarkable antibacterial effects and good cytocompatibility (up to 24 h).	4
~100 nm	Silanization method	G^+/G^-	-	Remarkable antibacterial effects and anti-adhesive activities.	5

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