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Supplementary Information

Photoluminescent Polyphosphazene Nanoparticles for in situ Simvastatin Delivery to Improve Osteocompatibility of BMSCs

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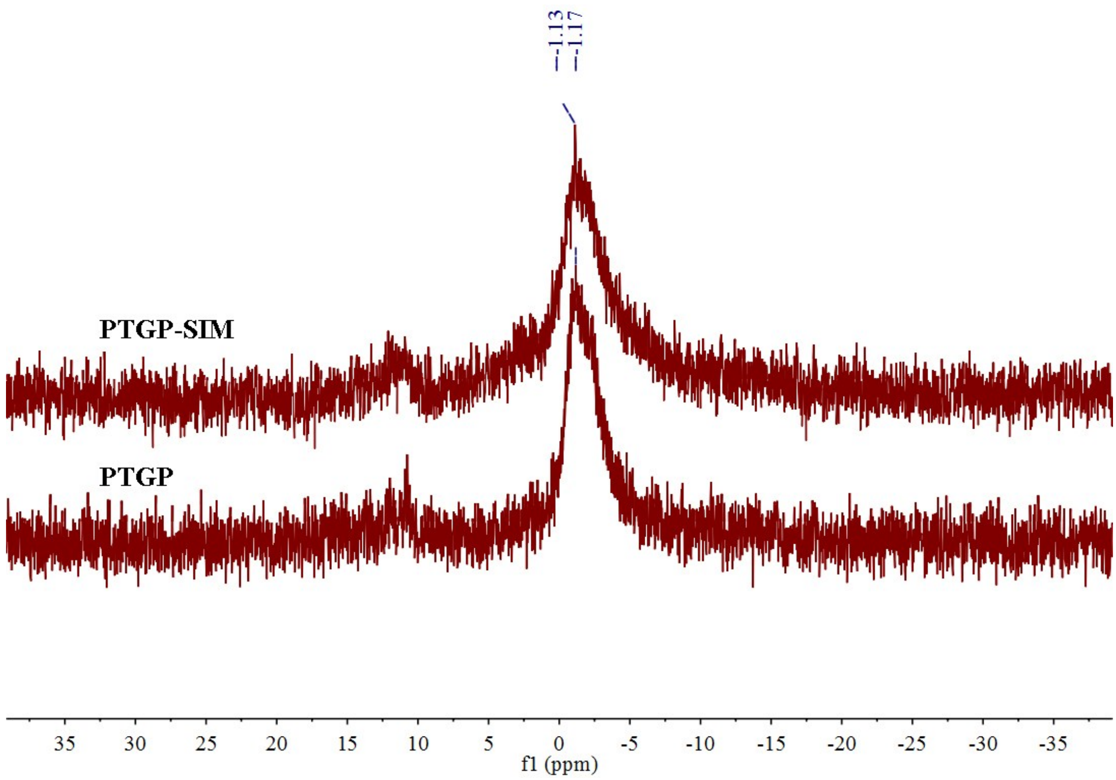

Fig. S1. ^{31}P NMR spectra of PTGP-SIM and PTGP polymers.

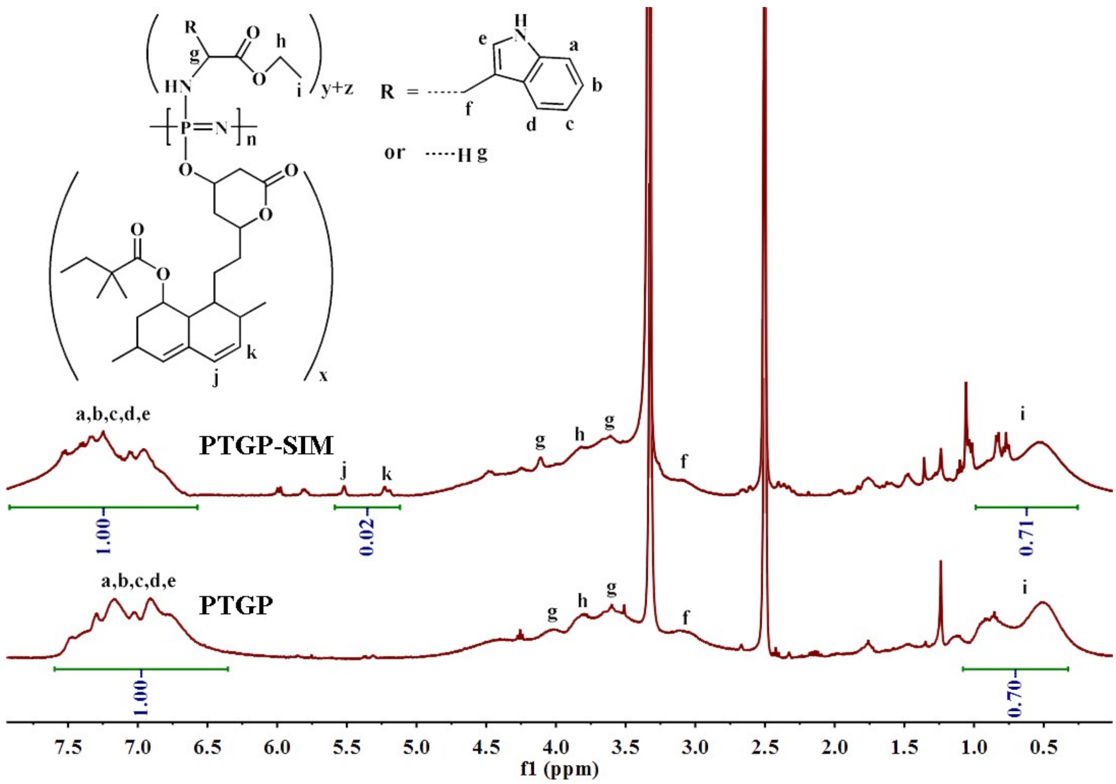

Fig. S2. ^{1}H NMR spectra of PTGP-SIM and PTGP polymers.

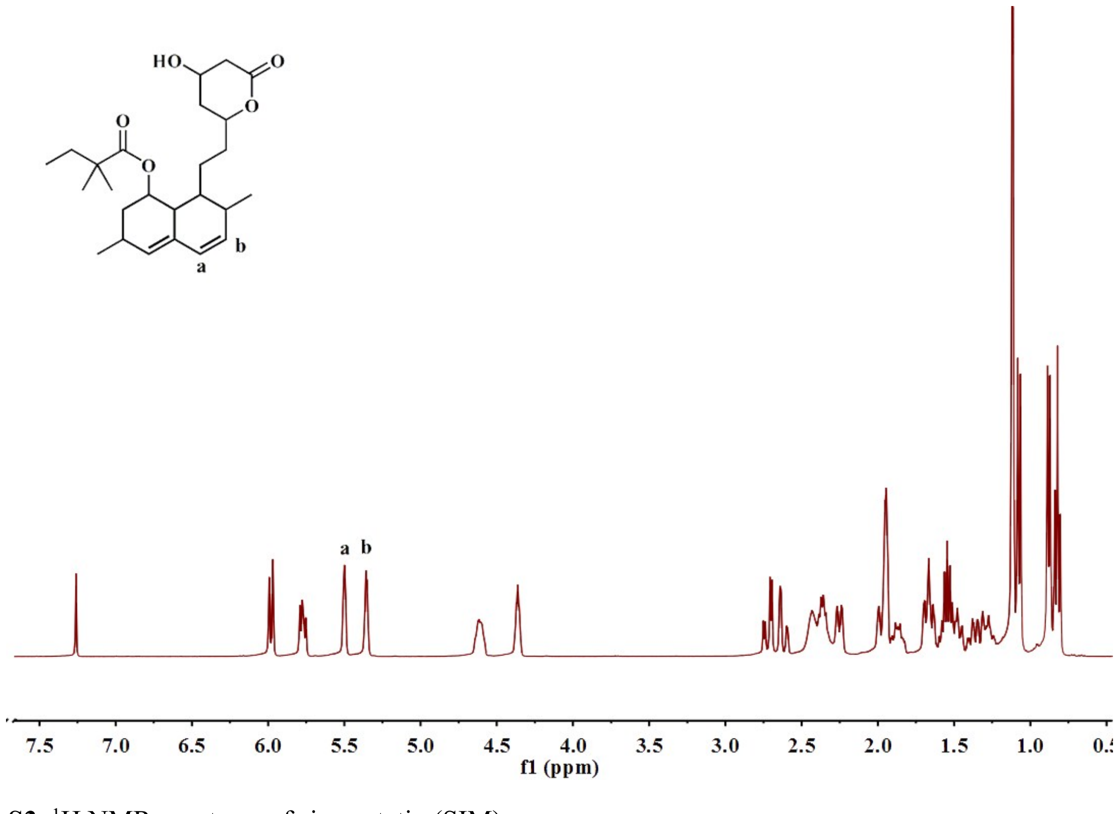

Fig. S3. ^{1}H NMR spectrum of simvastatin (SIM).

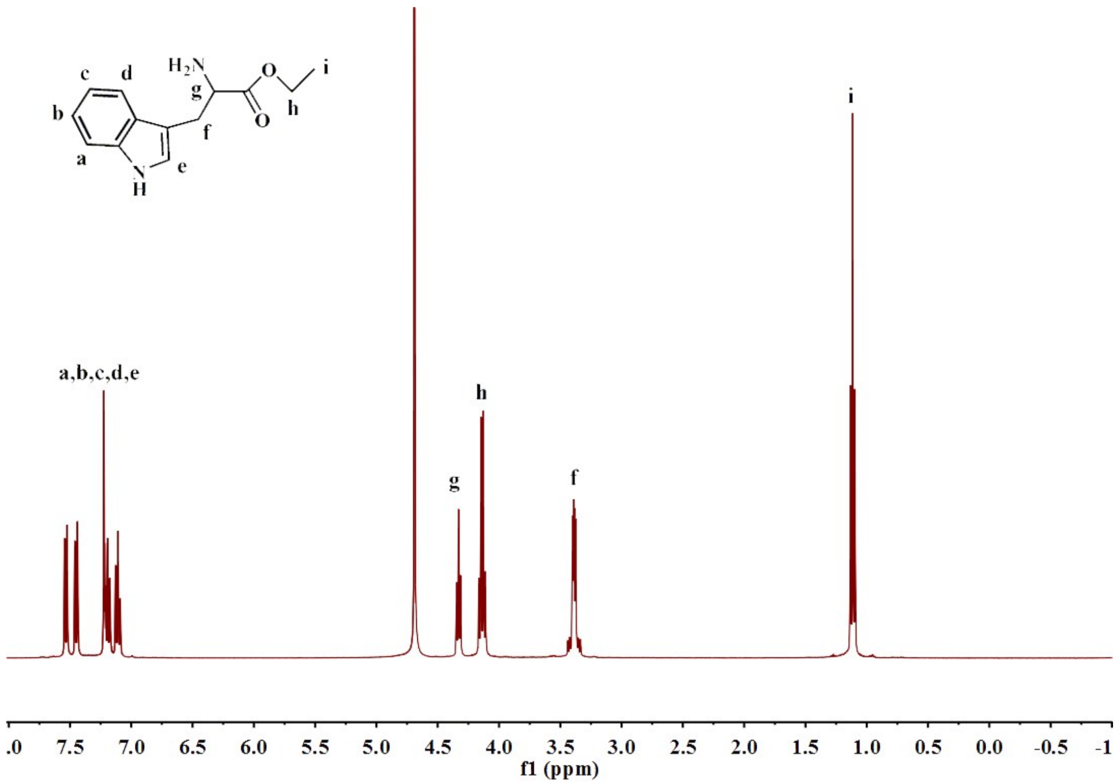

Fig. S4. ^{1}H NMR spectrum of L-tryptophan ethyl ester hydrochloride.

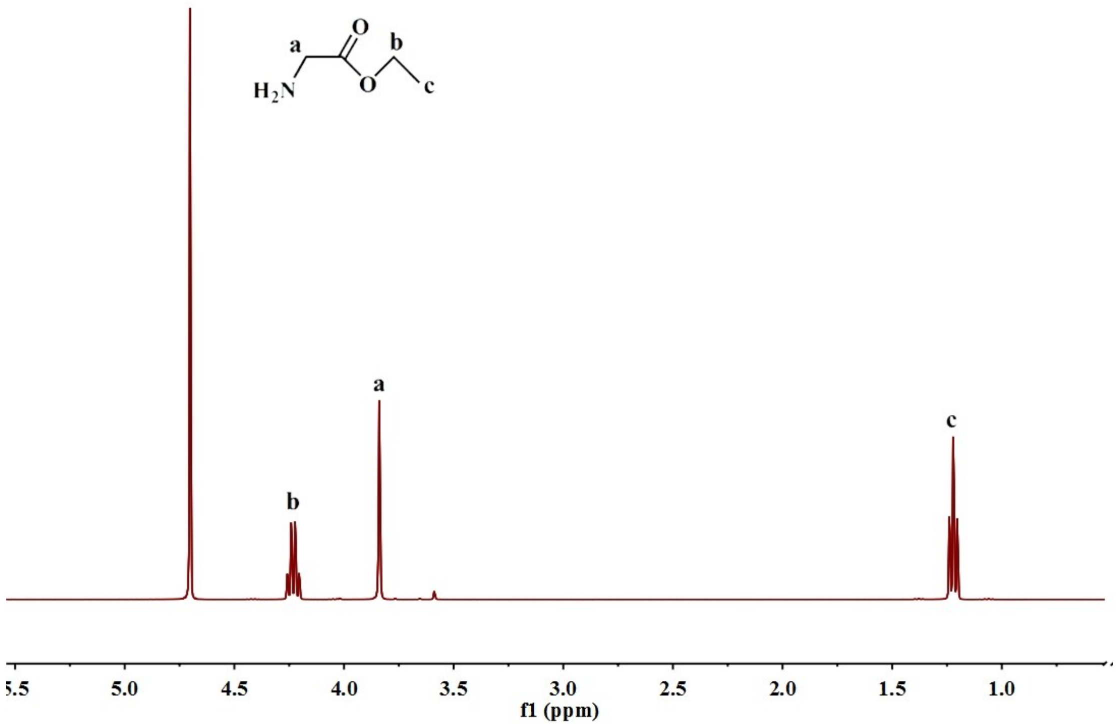

Fig. S5. ^{1}H NMR spectrum of L-glycine ethyl ester hydrochloride.

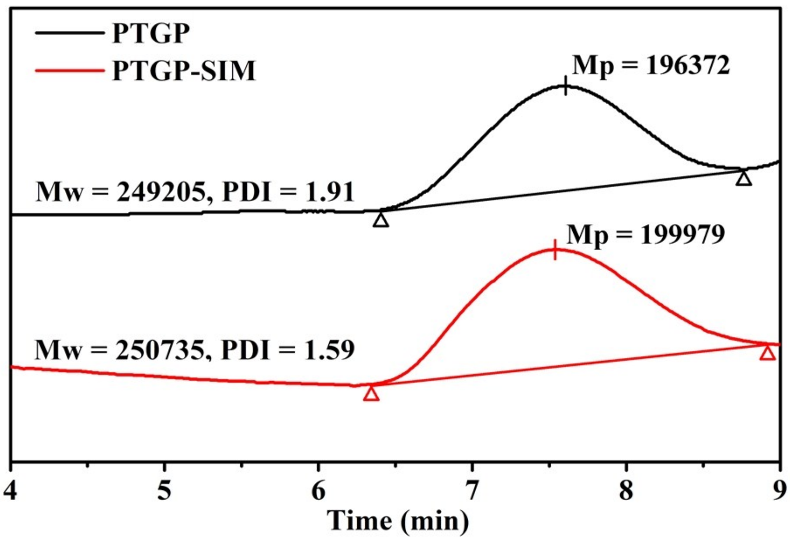

Fig. S6. Molecular weights and polydispersity (PDI) of PTGP-SIM and PTGP polymers determined by GPC. .

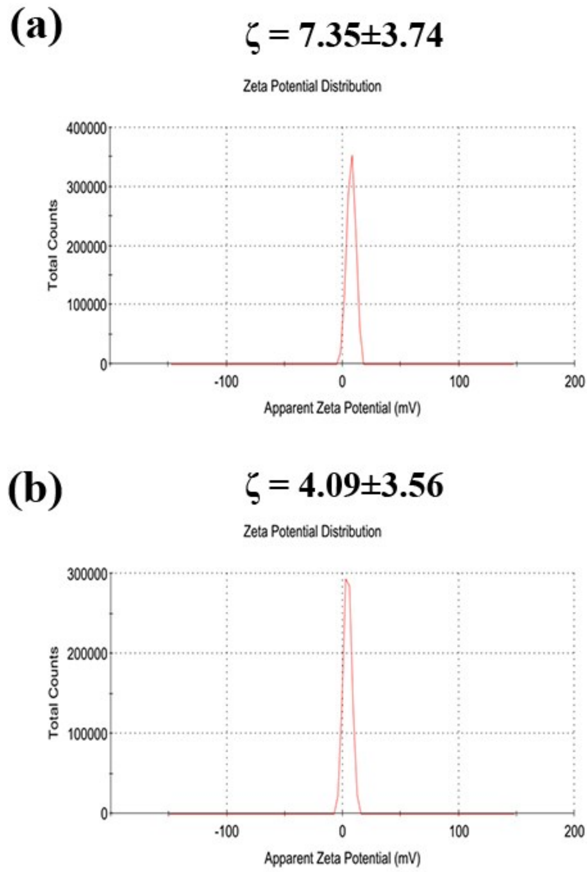

Fig. S7. Zeta potential measurements of (a) PTGP-SIM NPs and (b) PTGP NPs.

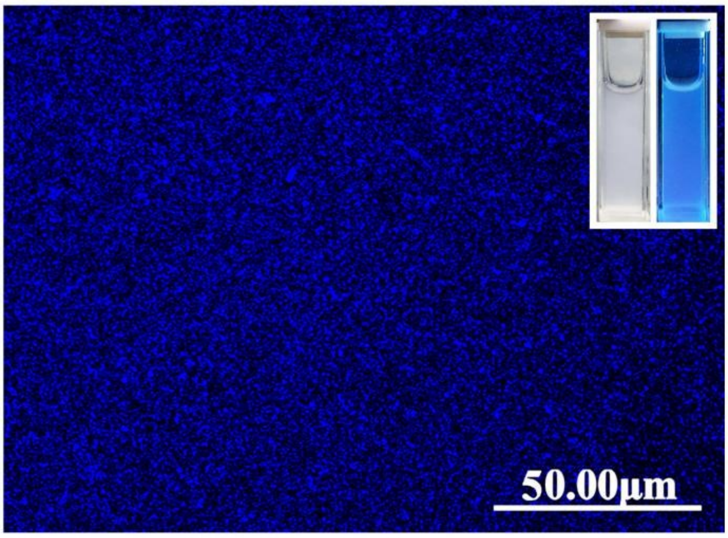

Fig. S8. LSCM image of PTGP-SIM NPs suspended in DI water under the excitation wavelength of 405 nm. Insets are appearances of PTGP-SIM NPs suspended in DI water observed under natural light (left) and 365 nm light (right).

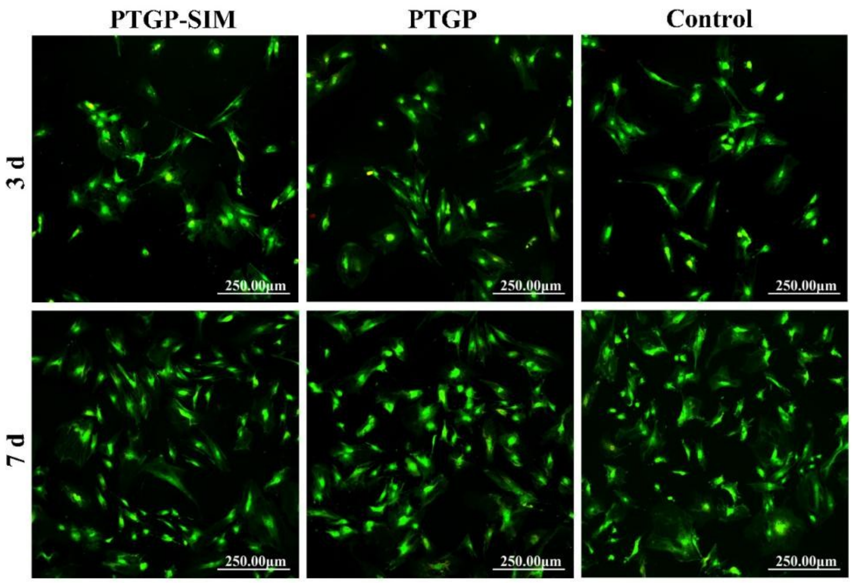

Fig. S9. Live/dead staining assay of BMSCs along with proliferation after being pre-treated with PTGP-SIM or PTGP NPs at the concentration of 0.04 g/L.

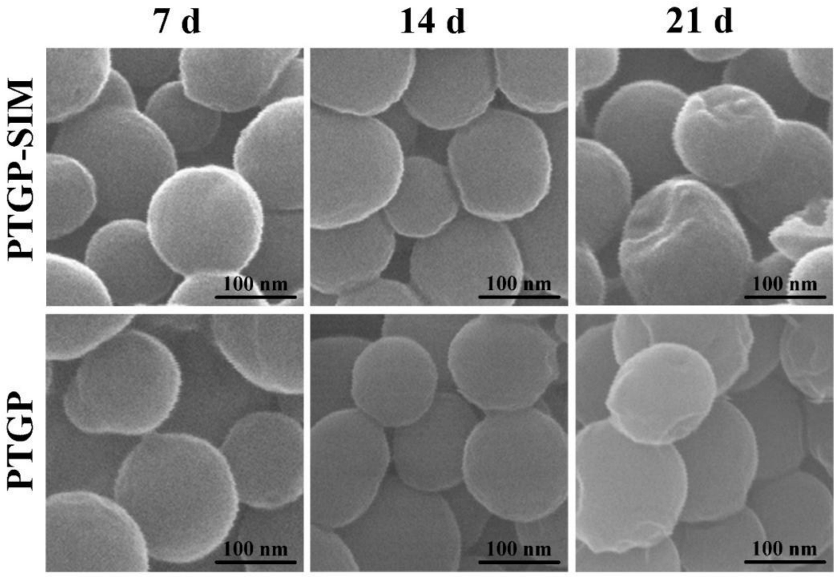

Fig. S10. Morphology changes of PTGP-SIM and PTGP NPs along with their degradation in PBS at 37°C for different periods.

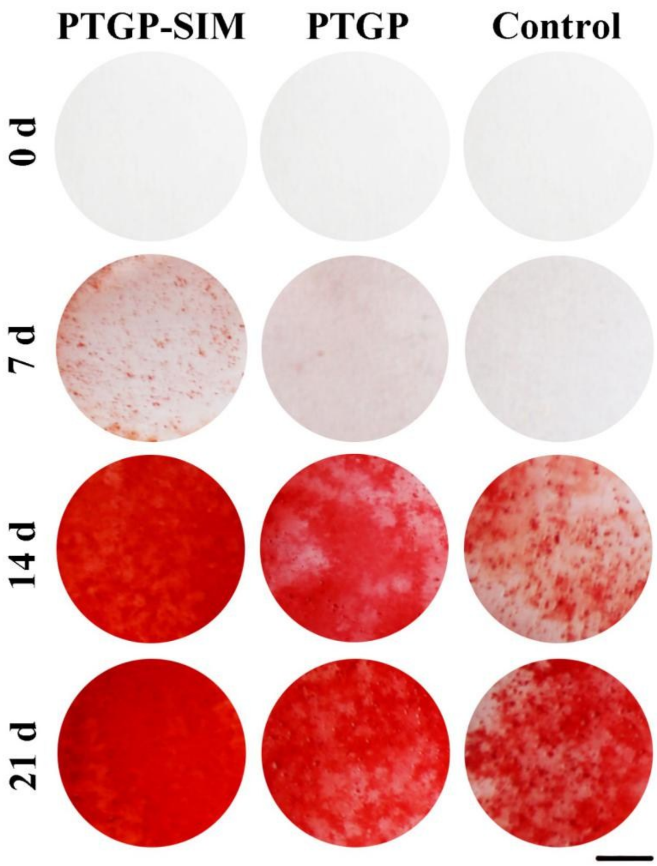

Fig. S11. Alizarin red staining for calcium deposition along with the osteogenic differentiation of BMSCs proceeding after the cells being treated with PTGP-SIM or PTGP NPs. Scale bar = 3 mm (taken by digital camera).

Table S1. The primers designed for selected genes relating to the osteogenic differentiation of BMSCs.

gene symbol	forward primer (5'-3')	reverse primer (5'-3')
Runx2	GCACCCAGCCCATAATAGA	TTGGAGCAAGGAGAACCC
BMP2	GGAAAACTTCCCGACGCTTCT	CCTGCATTTGTTCCCGAAAA
OPN	GAGGAAACCAGCCAAGGTAAG	AAAGCAAATCACTGCCAATCTC
ALP	AACGTGGCCAAGAACATCATCA	TGTCCATCTCCAGCCGTGTC
OCN	GGTGCAGACCTAGCAGACACCA	AGGTAGCGCCGGAGTCTATTCA
Col I	GCCTCCCAGAACATCACCTA	GCAGGGACTTCTTGAGGTTG
18s	GTAACCCGTTGAACCCCATT	CCATCCAATCGGTAGTAGCG