

Supplementary Materials for:

Artificial Peptides Binding to *c* Face of Hydroxyapatite Obtained by Molecular Display Technology

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Table S1 Amino acid sequences of peptides adsorbing to the *c* face pellets after six rounds of the *in vitro* selection. The partial sequences of amino acids which commonly appear are shown with colours.

#02: SNSGVTPAVNEWTQEA	#33: TTKEDASHTFNEQDQA
#03(pE): TKT SPTPENPTQQ HRT	#35: TTDP HRT DN NRT KYQT
#05: TD PLIXQTHHNSQLPK	#36: PNQSTTLYHNPLTDHD
#06: NNSTHSQHNAPHPQCT	#38: TSTSINEQTSSNAHSC
#07: PDDPQANNELHTTSRP	#39: TINTKMPHQHTPTHHC
#08: NNPQPTYTNATAGAD	#40: VXPHEFMGRPSPGCVV
#10: HTYTPTDVQ NRT NAPP	#41: TNRPTTNQPHMEH
#12: LNTPRPTAPGHAQLNK	#42: TCNIPQTN PTED LSDP
#14: NS TE DTTEYAQNILDN	#43(pD): TD PP SPKHHCL PT TAN
#16: RNNP SPT HHASDNTEL	#44(pA): NPPT RQT KPKRVANTN
#17: CVEYPLATTMEQQQTV	#45: DT TKT SPT HTNMGGQPE
#20: PRYDLDSPRTTILPND	#46: TTDP HRT DN NRT KYQT
#21: SKTRRAKYANVTQNTN	#48: RTHHTPELTPSMTETT
#22: TTHRDAENNTHAPNNT	#50: TTDP HRT DN NRT KYQT
#26: SQQMDERNEPTNTLTS	#52: EQSHIKDGETNPND
#27: HTPHKTSSTKQMTHPP	#53: DTTANAANT NPQDRTA
#28: NYTTNDQPMHDHDNTT	#57: TD PP SPKHHCL PT TAN
#29(pB): SAANT TQLNTP TE DN EP	#60: RQT KRHRSPNAPQPDY
#30(pC): TTDP HRT DN NRT KYQT	#61: EQYPSIEHR MTD PTTT
#31: EAGSEDYTHDPDNHH	#63: ITLQQQPTSHSPHLP

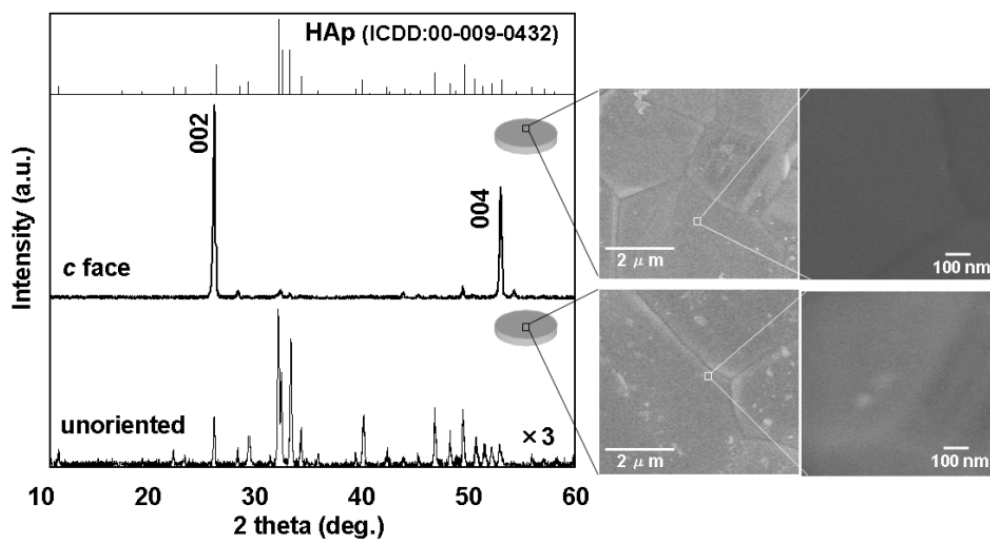


Fig. S1 XRD patterns and FESEM images of the surfaces of *c* axis-oriented and unoriented HA pellets. The surfaces of the pellets were basically flat.

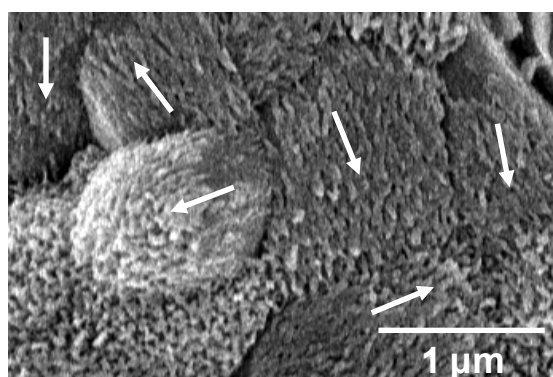


Fig. S2 FESEM images of HA crystals grown on the unoriented HA pellet. Bundled HA crystals elongated in the specific direction (white arrows) were formed on each grain. The oriented structure indicates that the epitaxial growth occurred on the seed HA crystals.

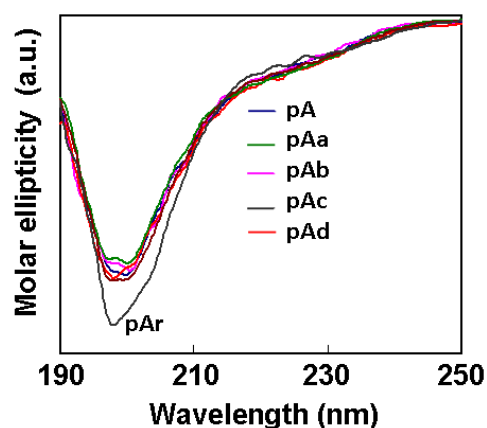


Fig. S3 CD spectra of the modified peptides.

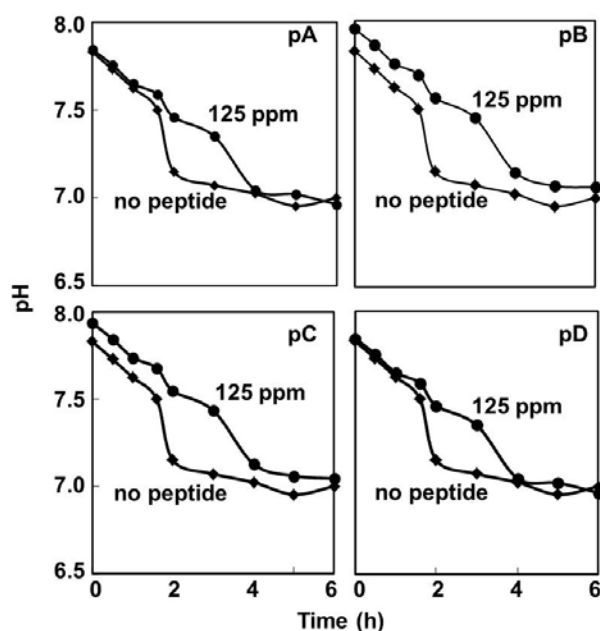


Fig. S4 Variation of pH with the nucleation of HA with and without peptides pA–pE (125 ppm). The initial pH of the mother solution containing $2.5 \text{ mmol/dm}^3 \text{ Ca}^{2+}$, $1.0 \text{ mmol/dm}^3 \text{ HPO}_4^{2-}$, and $1.5 \text{ mmol/dm}^3 \text{ Mg}^{2+}$, was adjusted to 8.0 by using KOH_{aq} . The pH value drastically decreased with the nucleation. The presence of the peptides delayed the nucleation. The effects of the five peptides for the nucleation were almost the same.