

CHAPTER 5

CONCLUSION

From this *in vitro* study of two kinds of HA (MP and TP) derived from cattle bone in SBF solution, pH 7.40, 37°c the conclusion could be drawn as follows :

(1) The newly formed solid appeared only on the surface of HA specimens was the not well-crystallized calciumphosphate compound containing the carbonate group in the phosphate site structure. The phase of this compound was very much similar to natural cattle bone phase.

(2) The newly formed solid was the crystallization product of which HA specimen acted as the substrate for heterogeneous nucleation growth and this newly formed solid covered all over the surface of the substrate at about 90 days observed by SEM.

(3) The newly formed solid was agglomerate particles which were composed of primary particles in acicular shape and loosely bound together. The size of agglomerate particle depended on the grain size of the original substrate . Primary particles which composed to agglomerate particles in MP and TP had acicular shape of the same size.

(4) The decrease in concentration of Ca and P ions in SBF solution indicated that they certainly had participated in the formation of newly formed solid on the surface of HA specimens.

(5) The dissolution behaviour of HA derived from cattle bone was not revealed in this study.



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