Comment on "Effects of Al/P Composition Ratio on the Crystallization of MgO–CaO–Al₂O₃–SiO₂–P₂O₅ Bioglass–Ceramic System"

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"MgO–CaO–Al₂O₃–SiO₂–P₂O₅ バイオガラス–セラミック系の結晶化に及ぼす Al/P 比の影響" へのコメント

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S. Wu and M. Hon represent the glass-ceramics in the system MgO–CaO–Al₂O₃–SiO₂–P₂O₅ by the term of "bioglass-ceramic" in their paper appeared in *J. Ceram. Soc. Japan*, 101[6], 626–629 (1993). Generally, the term "bioglass" defines a group of the surface-active glass that have been shown to bond to tissue, and the term "bioglass-ceramic" defines surface-active and crystallized glass-ceramics.¹⁾ No evidence showing that the present glass-ceramics have bonding ability to living tissue is, however, presented.

It seems that the authors expect that the present glass-ceramics could show the bonding ability. Many papers, however, have reported that addition of even small amounts of Al₂O₃ to compositions of surface-active glasses and glass-ceramics including Bioglass®-type glasses,^{2),3)} CaO–SiO₂ glasses,⁴⁾ Ceravital®-type glass-ceramics,⁵⁾ and glass-ceramic A–W^{6),7)} give significant adverse effect on their bonding ability to tissues. In view of these findings, it is doubtful that the

glass-ceramics in the system MgO–CaO–Al₂O₃–SiO₂–P₂O₅ show the bonding ability to tissues.

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