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ProductInformation

Calcium phosphate tribasic
Plant Cell Culture Tested

Product Number **C 3161**
Store at Room Temperature

Product Description

Molecular Formula: $Ca_5(OH)(PO_4)_3$
Molecular Weight: 502.3
CAS Number: 12167-74-7
Synonyms: tricalcium phosphate, tricalcium orthophosphate[1]

This product is plant cell culture tested (0.2 mg/ml) and is appropriate for use in plant cell culture experiments.

Calcium phosphate tribasic is a reagent that is used in various industrial processes. These include the manufacture of fertilizers, polishing and dental powders, porcelain and pottery, and enameling.[1]

Calcium phosphate tribasic is also utilized to engineer new biomaterials for applications such as bone grafts and fillers.[2,3,4] Rat and human tumor cell osteoclasts have been investigated with respect to their resorption properties on calcium phosphate tribasic.[5] The effect on the proliferation of MRC-5 fibroblasts on calcium phosphate tribasic ceramics, which have been sintered at different temperatures, has been studied.[6]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in 1 M HCl (50 mg/ml), yielding a slightly hazy, colorless to faint yellow/gray solution. It is essentially insoluble in water, alcohol, or acetic acid.[1]

References

1. The Merck Index, 12th ed., Entry# 1741.
2. Wolfe, M. S., et al., *In vitro* degradation and fracture toughness of multilayered porous poly(propylene fumarate)/β-tricalcium phosphate scaffolds. J. Biomed. Mater. Res., **61(1)**, 159-164 (2002).
3. Verdonschot, N., et al., Time-dependent mechanical properties of HA/TCP particles in relation to morsellized bone grafts for use in impaction grafting. J. Biomed. Mater. Res., **58(5)**, 599-604 (2001).
4. Lin, M., et al., Transforming growth factor-β1 adsorbed to tricalciumphosphate coated implants increases peri-implant bone remodeling. Biomaterials, **22(3)**, 189-193 (2001).
5. Monchau, F., et al., *In vitro* studies of human and rat osteoclast activity on hydroxyapatite, β-tricalcium phosphate, calcium carbonate. Biomol. Eng., **19(2-6)**, 143-152 (2002).
6. Cox, M., et al., Effect of TCP sintering temperatures on MRC-5 fibroblast proliferation and viability. Biomed. Sci. Instrum., **38**, 173-178 (2002).

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