

Novel Bioactive Glass-Modified Hybrid Composite Resin

Introduced by-Xiao Han, Yan Chen, Qian Jiang, Xin Liu, Yaming Chen in 2021.

Bioglass45S5

45%silica,24.5%sodium oxide,24.5%calcium oxide&6%phosphorus pentoxide

Bioglass5S4.3 (ceravital)

Only bind to bone tissue

Composition

FastOsBG

70%diopside,10%fluorapatite&20%tricalcium phosphate

Biosilicate

48.5%silica,23.75%sodium oxide,23.75%calcium oxide&4.0%phosphorus pentoxide

Indication



For esthetic enhancement



For repair of crown margin



To prevent secondary tooth decay

Contraindication

High stress bearing area

Restoration of large multi surface cavities

Isolation difficulties

Operator abilities

Advantage

Excellent mechanical properties

Remineralizing capabilities

Antibacterial

Good biocompatibility

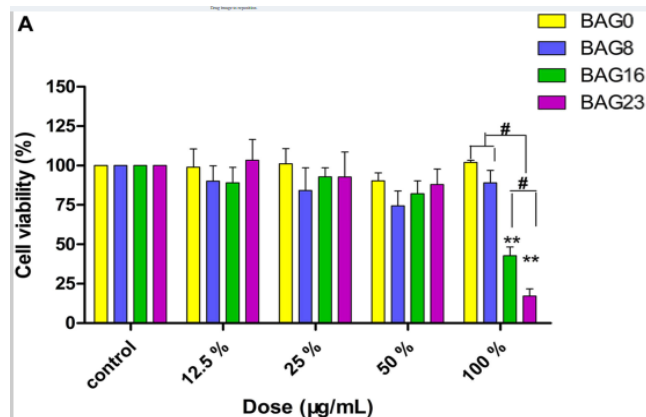
Disadvantage

Cytotoxicity

High soluble material

High material cost

Technique sensitive



Comparison of cell viability

Types

BAG0

BAG8

BAG16

BAG23