

Bone Cement Composition Containing Silk Fibroin Hydrolyzed Protein and PMMA

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Technology description

1. Technical summary

Treatment of spinal compression fractures, for spinal plastic surgery, such as biocompatible bone cement composite.

two. Research and development background

If the cement is too hard, it will wear out the surrounding spine bones and cause other fractures.

PMMA bone cement has relatively few side effects. Although it has been used as a filler for a long time, its inappropriate hardness can cause peripheral spinal injury. In addition, with the biological bone tissue pathological phenomena, blocking reabsorption and other side effects continue to appear. This requires us to open a substitute.

This requires us to develop bioidentical substitutes with good affinity and osteogenic ability of osteoblasts.

3. Technical content

The powder part is mixed with the fluid part.

Contains silk fibroin hydrolyzed protein hydrolysate powder, acrylic polymer PMMA, polymerization initiator powder.

The weight of silk fibroin hydrolyzed protein hydrolysate powder accounts for 5% to 60% of the total weight of silk fibroin hydrolyzed protein hydrolysate powder.

The molecular weight of silk fibroin hydrolysate powder is 0.1~100kDa.

A liquid containing acrylic monomers, polymerization initiators, and polymerization terminators.

Application area

Bone substitutes, biocompatible materials

Institution

[Hallym University](#)

[Republic of Korea \(Director, Rural Development Administration\)](#)

联系我们



叶先生

电话：021-65679356

手机：13414935137

邮箱：yeyingsheng@zf-ym.com