PREPARATION OF BIODEGRADABLE SCAFFOLD FOR DENTAL AND MEDICAL TISSUE ENGINEERING

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By

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Nomenclature

Abbreviations:

BMP-2	Bone morphogenic protein-2
CAD	Computer-aided design
DDA	Degree of deacetylation
DMEM	Dulbecco's modified Eagle's medium
DPMCs	Dental papilla mesenchymal cells
ECM	Extracellular matrix
FBS	Fetal bovine serum
Glc	Glucose
GP	Glycerol phosphate
HEC	Hydroxyethyl cellulose
micro-CT	Micro-computed tomography
MIP	Mercury intrusion porosimetry
mRNA	messenger RNA = messenger ribonucleic acid
MSCs	Mesenchymal stem cells
n	Number of samples per group for a specific test
PBS	Phosphate-buffered saline
PCL	Poly(ε-caprolactone)
PDLLA	poly(D,L-lactic acid)
PGA	Poly(glycolic acid)
PLA	Poly(lactic acid)
PLGA	Poly(lactic-co-glycolic acid)
PLLA	Poly(L-Lactic acid)
rpm	Round per minute
SD	Standard deviation
SE	Standard error
SEM	Scanning electron microscope

SFF	Solid freeform fabrication
TMJ	Tempromandibular joint
w/v	Weight/volume
ß-GP	ß-glycerol phosphate
ß-TCP	ß-tricalcium phosphate

Symbols:

$\Delta W\%$	Weight loss percent
μ	Surface tension of mercury
D	Entry diameter of the intruded pore
P	Pressure applied to force mercury into pores with certain entry diameter
V	Volume of mercury filling the sample's open pores
V_{Hg}	Volume of mercury in the penetrometer at the end of the low pressure cycle
V_p	Total penetrometer volume
V_{sa}	Sample's apparent volume
V_{se}	Sample's envelope volume
W	Total weight of the loaded penetrometer
W_f	Final sample's weight after degradation
W_{Hg}	Weight of mercury in the penetrometer at the end of the low pressure cycle
W_i	Initial sample's weight before degradation
W_p	Empty penetrometer's weight
W_s	Sample's weight
θ	Mercury's contact angle on chitosan surface
ρ_{Hg}	Mercury's density
ρ_{sa}	Sample's apparent density
ρ_{se}	Sample's envelope density

Units:

µl	microliter
µm	micrometer
µM	micromolar = µmol/L
g	gram
kD	kilodalton
kg	kilogram
M	molar = mol/L
ml	milliliter
mM	millimolar = mmol/L
mm	millimeter
MPa	megapascal

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