

Investigating the in Vitro Osteogenic Properties of the Inclusion Nanocarrier of Icariin with Beta-Cyclodextrin-Alginate

Somang Choi ^{1,2,†}, Yeong Seok Lee ^{3,4,†}, Han-Saem Jo ⁵, Woong Kyo Jeong ⁶, Hak-Jun Kim ¹, Mi Hyun Song ^{1,*}, Kyeongsoon Park ^{5,*} and Sung Eun Kim ^{1,*}

¹ Department of Orthopedic Surgery and Rare Diseases Institute, Korea University Guro Hospital, #148, Gurodong-ro, Guro-gu, Seoul 08308, Korea; chlthakd1029@naver.com (S.C.); dakjul@korea.ac.kr (H.-J.K.)

² Department of Biomedical Science, College of Medicine, Korea University, Anam-dong, Seongbuk-gu, Seoul 02841, Korea

³ Department of Orthopedic Surgery, College of Medicine, Korea University, Anam-dong, Seongbuk-gu, 02841, Korea; prince042@hanmail.net

⁴ Saint Luke Hospital, #726, Tongil-ro, Eunpyeong-gu, Seoul 03368, Korea

⁵ Department of Systems Biotechnology, Chung-Ang University, Anseong-si, Gyeonggi-do 17546, Korea; luchiatkdkd@naver.com

⁶ Department of Orthopedic Surgery, Korea University Anam Hospital, #73, Goryeodae-ro, Seongbuk-gu, Seoul 02841, Korea; drshoulder@korea.ac.kr

† S.C. and Y.S.L. contributed equally to this work.

* Correspondence: wwiiw@hanmail.net (M.H.S.); kspark1223@cau.ac.kr (K.P.); sekim10@korea.ac.kr (S.E.K.); Tel.: +82-2-2626-3239 (M.H.S.); Tel.: +82-31-670-3357 (K.P.); Tel.: +82-2-2626-1999 (S.E.K.)

Table S1. RT-PCR primer sequences of the genes related osteogenic markers

Gene	Primer (forward) 5'→3'	Primer (reverse)
OCN	TTG GTG CAC ACC TAG CAG AC	ACC TTA TTG CCC TCC TGC TT
OPN	GAG GGC TTG GTT GTC AGC	CAA TTC TCA TGG TAG TGA GTT TTC C

PCR amplification and detection

The PCR amplification and detection were carried out using an ABI7300 Real-Time Thermal Cycler (Applied Biosystems, Foster, CA, USA) using the DyNAmo™ SYBR® Green qPCR Kit (Finnzymes, Espoo, Finland). The osteogenic gene levels for OCN and OPN were standardized to those of GAPDH and presented as relative values.