

Supporting Information

Diamond-Nanogel Embedded Contact Lenses Mediate Lysozyme-Dependent Therapeutic Release

Ho-Joong Kim,^{1,2*} Kangyi Zhang,^{1,2*} Laura K. Moore,¹ and Dean Ho^{1,2,3,4,5,6,7^}

¹Department of Biomedical Engineering, Northwestern University, Evanston, Illinois, 60208

²Division of Oral Biology and Medicine, UCLA School of Dentistry, Los Angeles, California, 90095

³Department of Mechanical Engineering, Northwestern University, Evanston, Illinois, 60208

⁴Robert H Lurie Comprehensive Cancer Center, Northwestern University, Chicago, Illinois, 60611

⁵Institute for Biotechnology in Medicine, Northwestern University, Chicago, Illinois, 60611

⁶Current Address: Division of Oral Biology and Medicine and Division of Advanced Prosthodontics, UCLA School of Dentistry, Los Angeles, California, 90095

⁷Current Address: The Jane and Jerry Weintraub Center for Reconstructive Biotechnology, UCLA School of Dentistry, Los Angeles, California, 90095

*These authors contributed equally to this work

^To whom correspondence should be addressed: dean.ho@ucla.edu

Figure S1

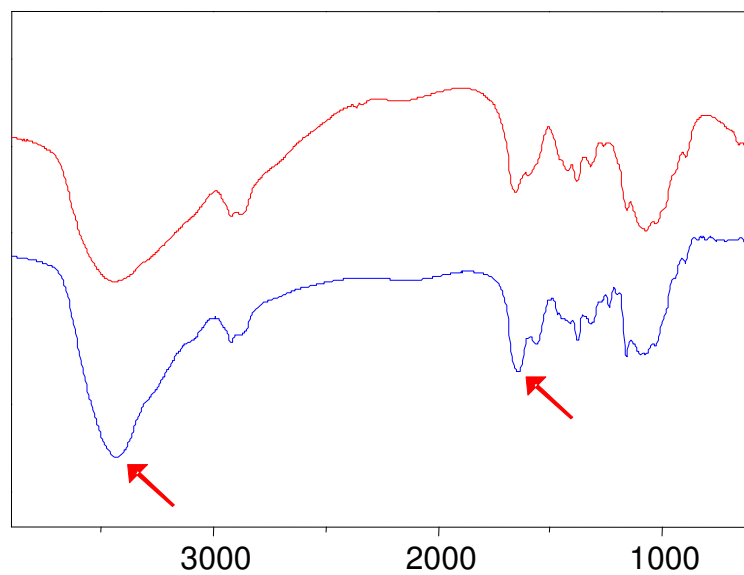


Figure S1. FTIR spectra of chitosan (red) and N-acetylated chitosan (blue). Red arrows indicate the presence of secondary amide bonds in N-acetyl group.

Figure S2

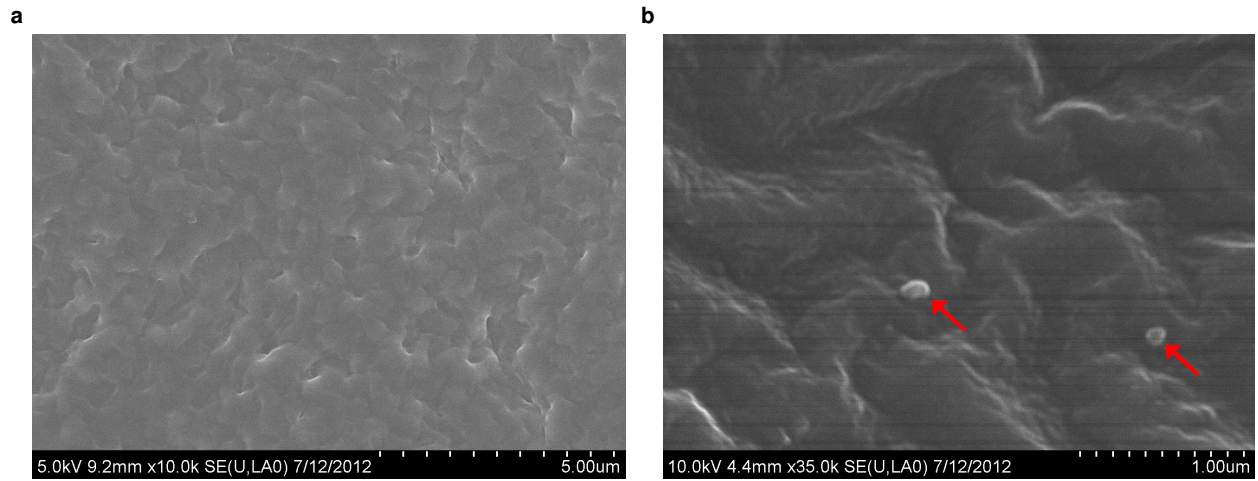


Figure S2. SEM images of **a)** HEMA contact lens and **b)** ND-nanogel embedded contact lens at higher magnification. ND-nanogels of approximately 100 nm size were observed on the surface of contact lenses (red arrows).

Figure S3

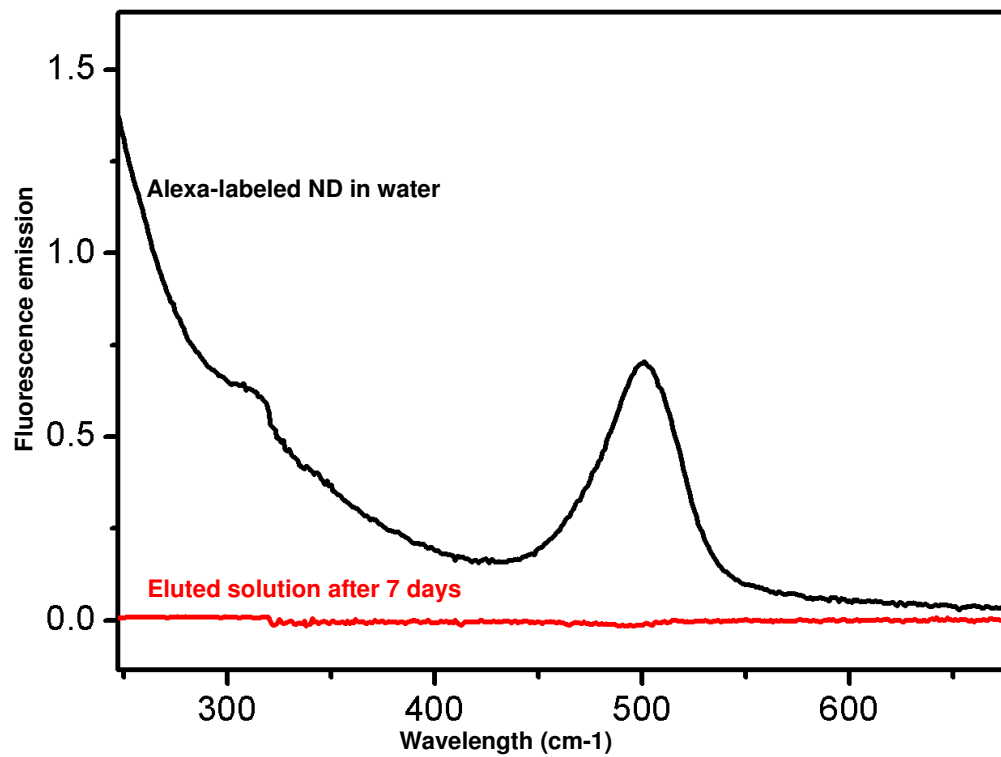


Figure S3. Fluorescence spectral scan of Alexa Fluor® 488-labeled ND in water (black) and eluted solution from ND-nanogel lens over 7 days in lysozyme solution (red). Negligible fluorescence level was detected in the elution after 7 days, indicating an absence of NDs.