Biomaterials Science

[Supplementary information]

Effective CpG DNA delivery using amphiphilic cycloamylose nanogels

Y. Tahara,^{*a,b*,1} J. Yasuoka,^{*c*,1} S. Sawada,^{*a,b*} Y. Sasaki^{*a*} and K. Akiyoshi*^{*a,b*},

^{*a*} Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, Katsura, Nishikyoku, Kyoto 615-8510, Japan.

^b ERATO Bio-nanotransporter Project, Japan Science and Technology Agency (JST), Kyoto University, Katsura, Nishikyo-ku, Kyoto 615-8510, Japan.

^c Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, 2-3-10 Kanda-Surugadai, Chiyoda-ku, Tokyo 101-0062, Japan.

¹ These authors contributed equally to this work.

*Corresponding author: Kazunari Akiyoshi, Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University, Katsura, Nishikyo-ku, Kyoto 615-8510, Japan. Tel: +81-75-383-2589; Fax: +81-75-383-2590. E-mail: akiyoshi@bio.polym.kyoto-u.ac.jp.



Fig.S1 (A) Cytotoxicity of J744A.1 cells using PEI/CpG, CHP-DEAE/CpG and CH-CA-DEAE/CpG complexes and (B) IL-12 secretion of J744A.1 cells induced by native CpG DNA complexed with PEI, CHP-DEAE, CA-DEAE or CH-CA-DEAE nanogels.



Fig. S2 Complex formation of native CpG DNA with CA-DEAE or CH-CA-DEAE nanogels after incubation with DNase I confirmed through agarose gel electrophoresis.



Fig. S3 Particle sizes of complexes of native CpG DNA and PS-CpG DNA with CH-CA-DEAE nanogels (n=3).



Fig. S4 Intracellular distribution of RAW264.7 cells using the complexes of native CpG DNA and PS-CpG DNA. Scale bars: $20 \mu m$.