Table A1 Draize's scale of weighted scores for grading the severity of ocular lesions

Assessment	Score
Cornea	
A. Opacity—Degree of density (most dense area taken for reading)	
No uleceration or opacity	0
Scattered or diffuse area; details of iris clearly visible	1
Easily discernible translucent areas; details of iris slightly obscured	2
Opalescent areas; no details of iris visible, size of pupil barely discernible	3
Opaque; iris invisible	4
B. Area of cornea involved	
None	0
One quarter (or less) but not zero	1
Greater than one quarter, less than one half	2
Greater than one half, less than three quarters	3
Greater than three quarters, up to whole area	4
Score=A ×B ×5 (range, 0 to 80)	
Iris	
A. Values	
Normal	0
Folds above normal, congestion, swelling, and/or circumcorneal injection; iris still reacting to light (sluggish reaction is positive)	1
No reaction to light, hemorrhage, and/or gross destruction	2
Score=A ×5 (range, 0 to 10)	
Conjunctivae	
A. Redness of palpebral conjunctivae	
Normal	0
Vessels definitely injected above normal	1
More diffuse, deeper crimson red; individual vessels not easily discernible	2
Diffuse beefy red	3
B. Chemosis	
Normal	0
Any swelling above normal (includes nictitating membrane)	1
Obvious swelling with partial eversion of the lid	2
Swelling with lids about half closed	3
Swelling with lids about half closed to completely closed	4

C. Discharge

Normal	0
Any amount different from normal	1
Discharge with moistening of the lids and hairs just adjacent to the lids	2
Discharge with moistening of the lids and considerable area around the eye	3

Score=(A+B+C)×2 (range, 0 to 20)

Total score = Sum of all scores obtained for the cornea, iris and conjunctivae

Table A2 Classification of products according to the Draize Ocular irritation index (OII)

Avarage score	Classification
0	Non-irritant
0-15	Slightly irritant
>15-30	Moderately irritant
>30-50	Irritant
>50	Very irritant

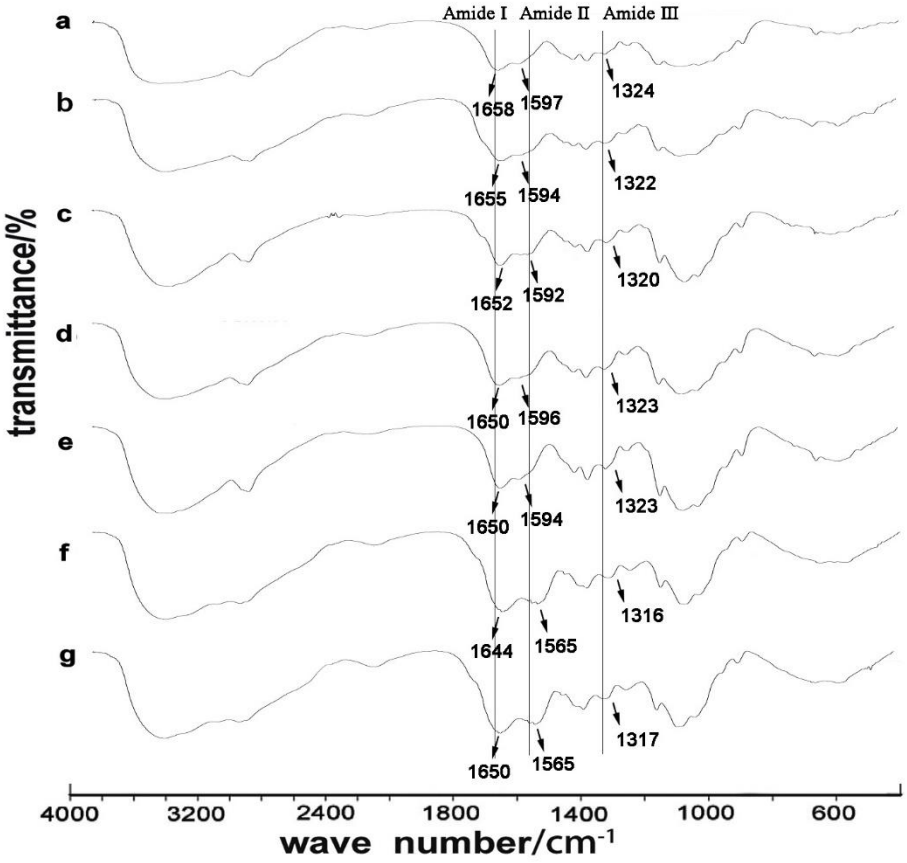

Fig.S1. IR spectra of CTS (a), CTS-Fmoc-GS (1:0.5) (b), CTS-Fmoc-GS (1:1) (c), CTS-GS (1:0.5) (d), CTS-GS (1:1) (e), CG-GS (1:0.5) (f) and CG-GS (1:1) (g).

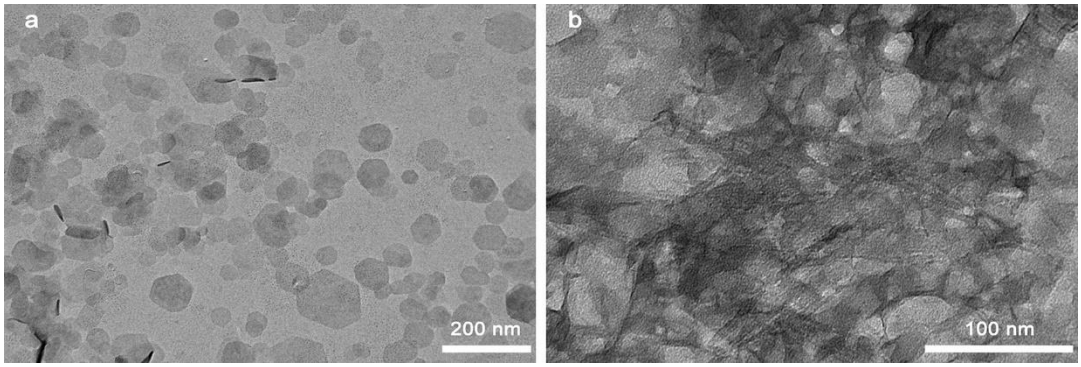

Fig.S2. TEM micrographs of Mg-Al-NO_3-LDH (a) and CG-GS-PRN-LDH (b).

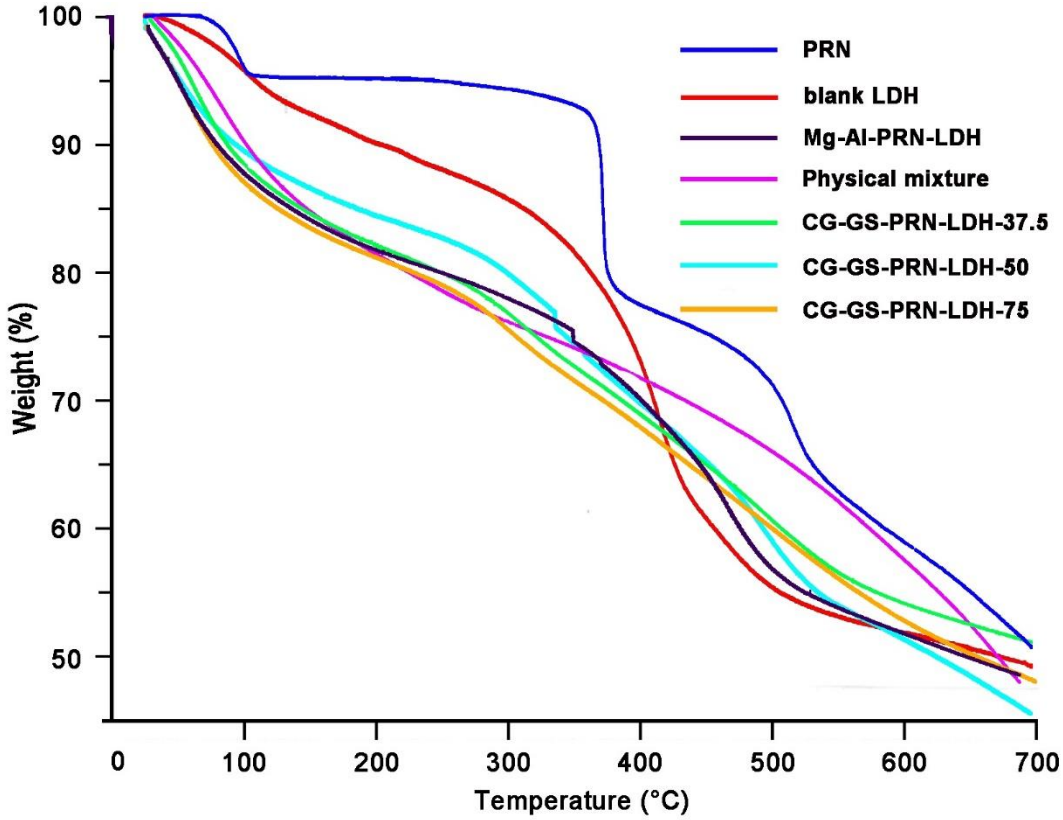

Fig.S3. Thermogravimetric analyses of PRN, blank LDH, Mg-Al-PRN-LDH nanoparticles, different amount of CG-GS for CG-GS-PRN-LDH nanocomposites and the physical mixture of CG-GS and PRN-LDH.

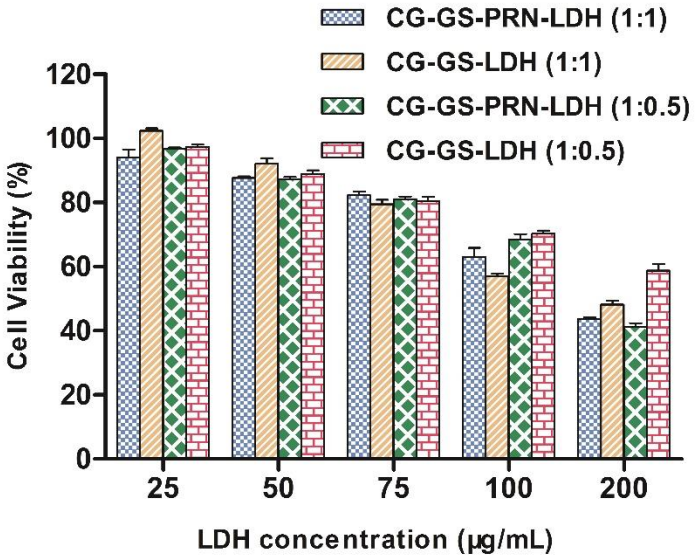

Fig.S4. HCEpiC cell viability of CG-GS-PRN-LDH (1:1), CG-GS-LDH (1:1), CG-GS-PRN-LDH (1:0.5) and CG-GS-LDH (1:0.5) nanocomposites at different LDH concentration. . Data represent the means and standard deviations of triplicate experiments.

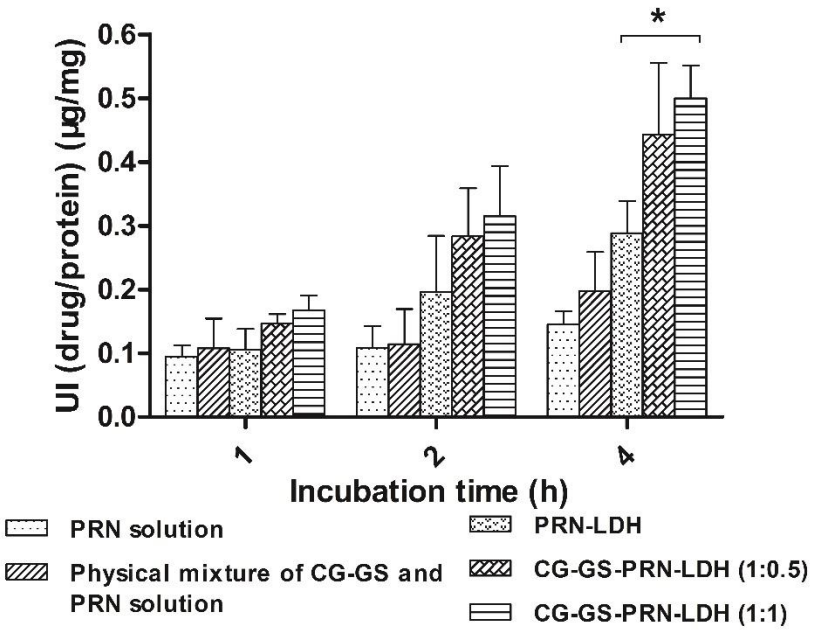

Fig.S5. *In vitro* cellular uptake of CG-GS-PRN-LDH (1:1) nanocomposites, CG-GS-PRN-LDH (1:0.5) nanocomposites, PRN-LDH nanoparticles, physical mixture of CG-GS and PRN solution (0.00038% (w/v)) and PRN solution at different time points (Mean ± SD, n = 3). *P<0.05 vs. PRN-LDH. The bar shown is 25 μm.

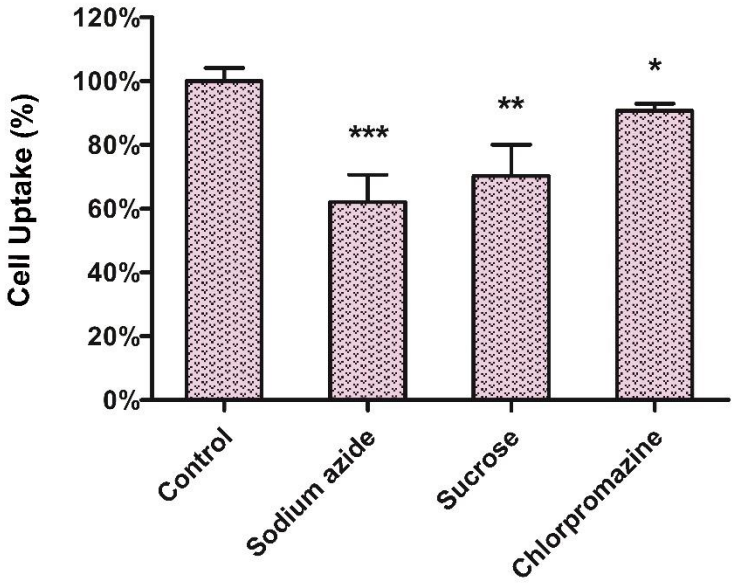

Fig.S6. The effects of endocytic inhibitors on cellular uptake of CG-GS-FITC-LDH nanocomposites (Mean ± SD, n = 3). *P < 0.05, **P < 0.01, ***P < 0.001 vs. control group.

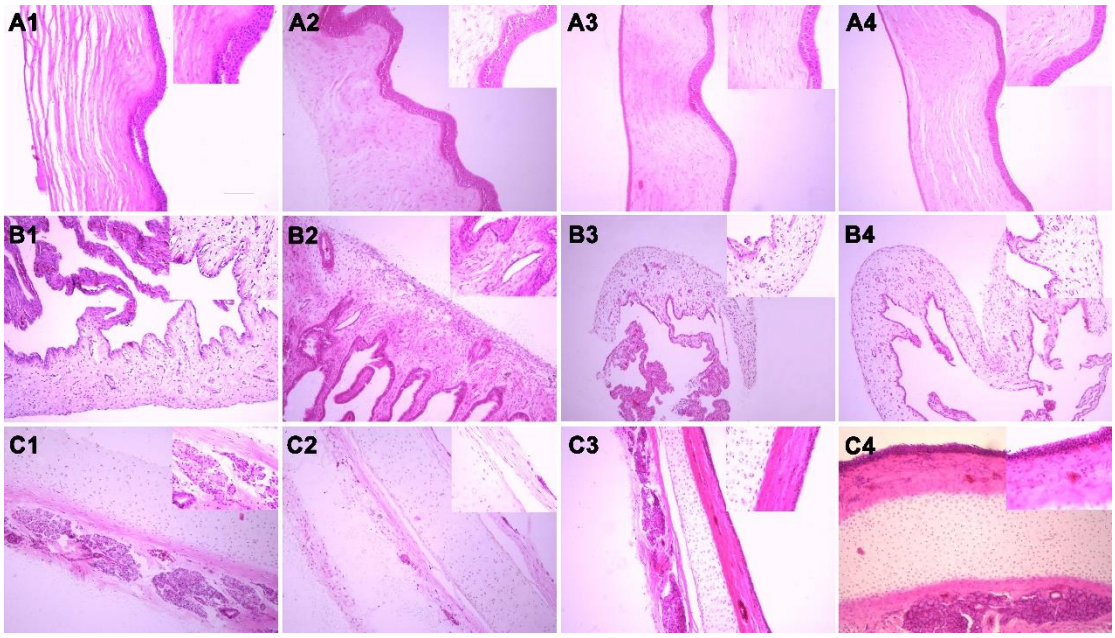

Fig.S7. Histopathology microscopy of cornea (A), iris (B) and conjunctiva (C) after treated with different formulations for 7 days, 1) Blank; 2) Normal saline; 3) CG-GS-PRN-LDH (1:0.5); 4) CG-GS-PRN-LDH (1:1), n=3. The bar shown is 50 μm.