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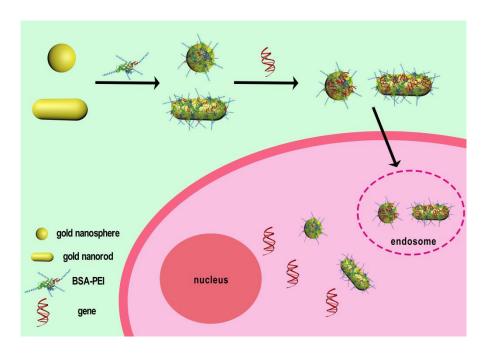
### ACCEPTED MANUSCRIPT

# Regulation the morphology of cationized gold nanoparticles for effective gene delivery

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#### **Graphical Abstract**



Spherical and rod-like gene complexes were prepared to investigate the influence of the morphology on gene delivery.

#### Highlights

- BSA-PEI was used to modify gold nanorods and gold nanospheres as gene vector.
- The influence of morphology on gene delivery was investigated.
- Gold nanoparticles condensed DNA and remained spherical and rod-like morphology.
- Rod-like nanoparticles were facilitated to uptake and showed higher transfection.

#### 1 Abstract

Recent research indicated that the morphology of nanoparticles could result in distinct biological behaviors, thus played an important role in designing efficient gene

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