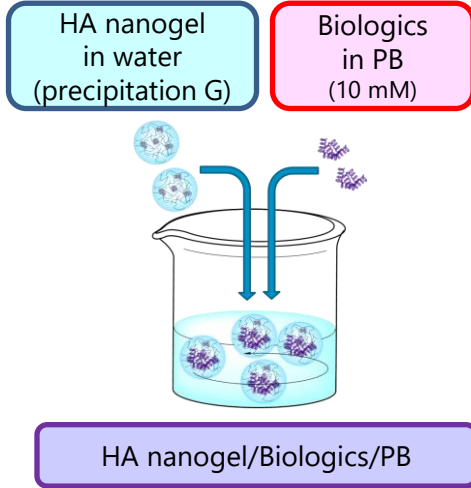


Loading process



Loading capacities of biologics

Proteins/peptides	Mw	Charge	Loading wt% P/(HA nanogel+P)
Exendine-4	4,200	-	25 *
Lysozyme	14,000	+	29 *
Human growth hormone	22,000	-	23
Carbonic anhydrase	29,000	±	26
Erythropoietin	34,000	-	46 *
BSA	68,000	-	29
Conalbumin	75,000	-	38
Aldolase	158,000	+	40

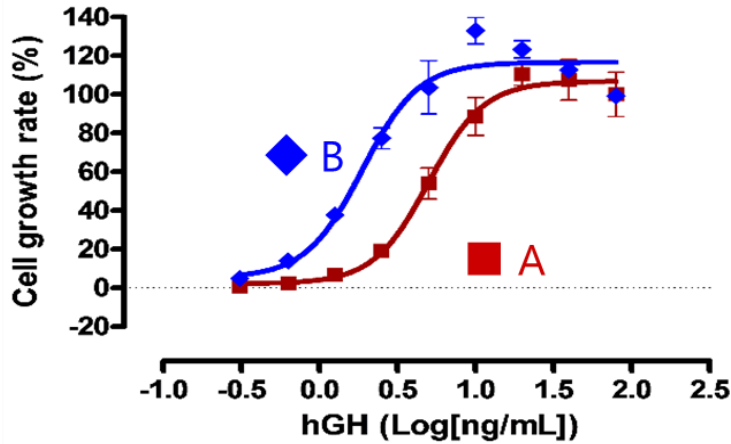
* WO2010-053140

Formulation

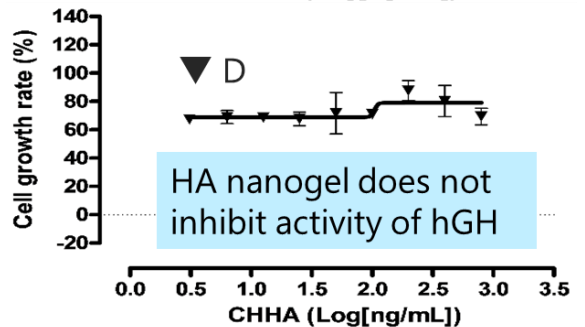
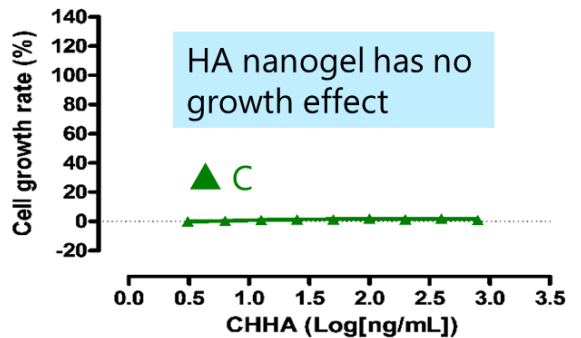
- Various drug molecules can be encapsulated by just mixing in water.
- HA nanogel can host various types of biologics.
- Loading capacities do not depend on the molecular weight or charge of biologics, but hydrophobic interactions have a large effect.

Retention of activity

Retained activity of hGH



- A: hGH
- ◆ B: hGH trapped & released from HA nanogel
- ▲ C: HA nanogel + HP-β-CyD
- ▼ D: A + C



- After releasing hGH from HA nanogel/hGH complex by HP-β-CD, its hGH activity was the same or a little bit higher than that of non-nanogel-treated hGH.
- HA nanogel might work as an artificial chaperone, like cholesterol pullulan nanogel.