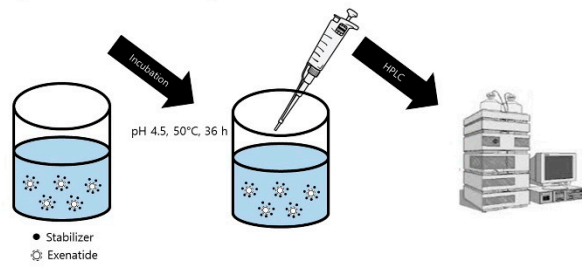
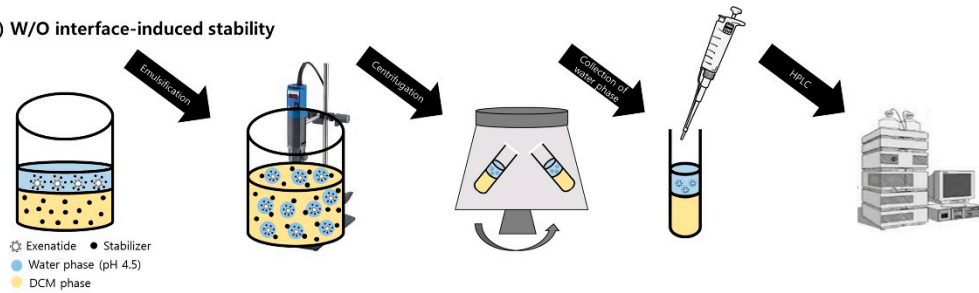


Figure S1. Chemical structures: (a) exenatide; (b) PLGA; (c) sucrose; (d) proline; (e) lysine; (f) phenylalanine; (g) poloxamer 188.

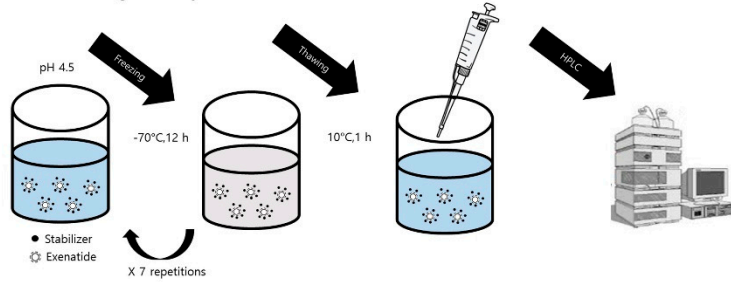
(a) Aqueous solution stability of exenatide



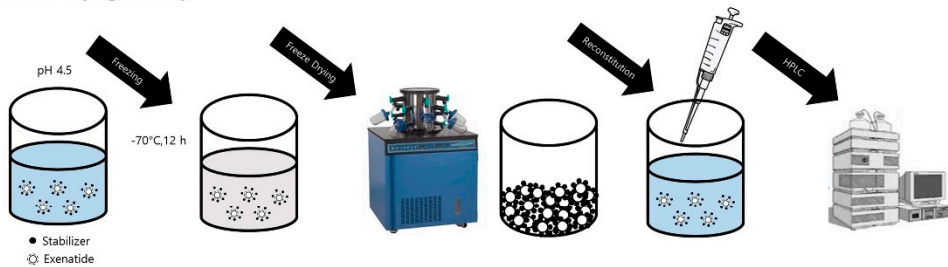
(b) W/O interface-induced stability



(c) Freeze-thawing stability

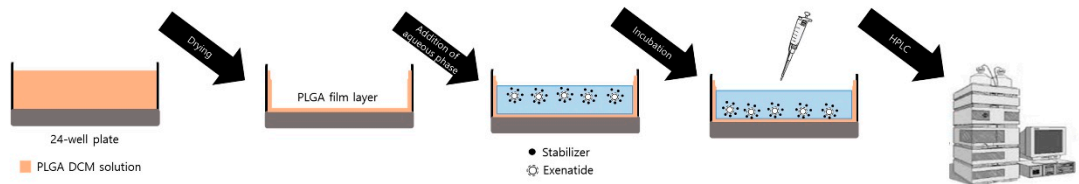


(d) Freeze-drying stability



(e) Adsorption

Hydrophilic additives in aqueous phase



Amphipathic additives in DCM phase

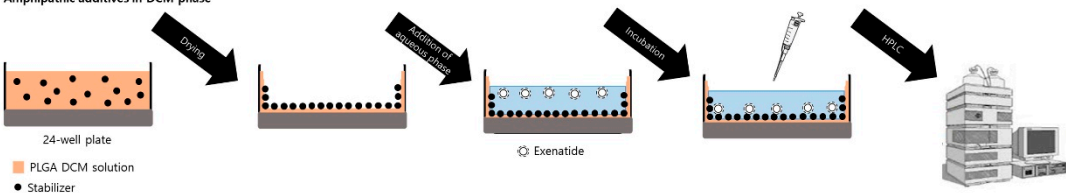


Figure S2. Schematic representation of stability test methods: (a) aqueous solution stability; (b) W/O interface-induced stability; (c) freeze-thawing stability; (d) freeze-drying stability; (e) adsorption.