Supplementary Information (SI) for Journal of Materials Chemistry B.

Supplementary data

Supplementary Table 1. Comparison of crosslink stability among SA hydrogel beads, Chitosan-based hydrogel, and the beads-in-hydrogel platform.

	Degradation time	Composition	Reference
SA hydrogel beads	1-3 days	Sodium alginate and calcium chloride	(Moya, Morley et al. 2012)
Chitosan-based hydrogel	Days to weeks	Chitosan, carboxymethyl cellulose	(Ciolacu, Nicu et al. 2020)
Beads-in-hydrogel platform	At least 13 days	Sodium alginate, calcium chloride, chitosan and cellulose	This work

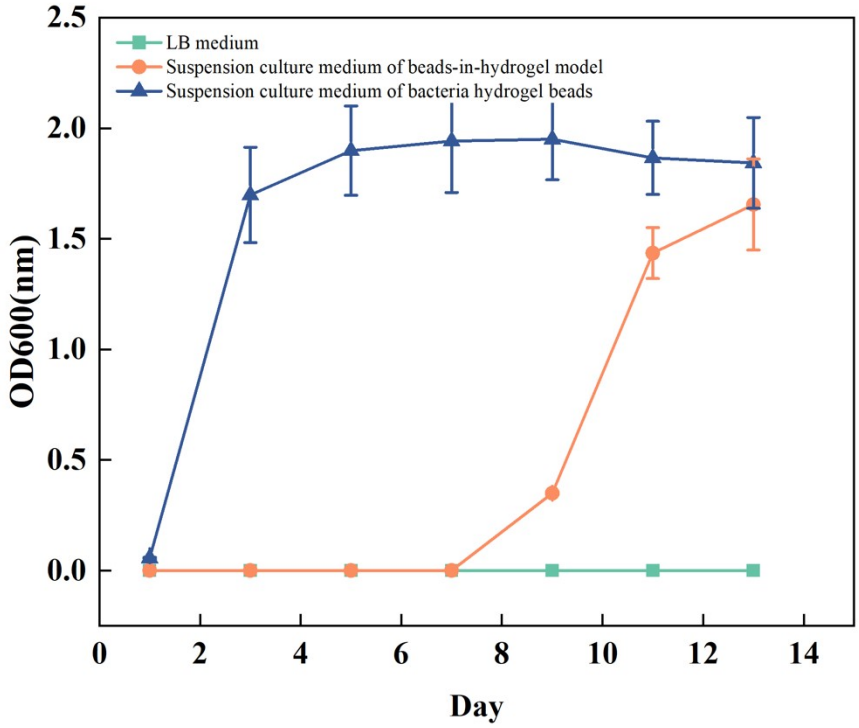

Figure S1. OD absorbance assay measuring the optical density (OD) of 200 µL samples from pure LB medium, suspension medium extracted from the bacterial beads model, and the beads-in-hydrogel model culture. Measurements were taken on days 1, 3, 5, 7, 9, 11, and 13. The OD value of our beads-in-hydrogel suspension (orange line) began increasing on day 7, whereas the bacterial hydrogel bead suspension showed an OD increase as early as day 3. This indicates that our beads-in-hydrogel platform has significantly enhanced stability compared to SA hydrogel alone.

Reference:

1. Ciolacu, D. E., R. Nicu and F. Ciolacu (2020). "Cellulose-Based Hydrogels as Sustained Drug-Delivery Systems." Materials **13**(22): 5270.
2. Moya, M. L., M. Morley, O. Khanna, E. C. Opara and E. M. Brey (2012). "Stability of alginate microbead properties in vitro." J Mater Sci Mater Med **23**(4): 903-912.