

Supplementary Information

A Promising Strategy to Improve Stability and Immunogenicity of Killed but Metabolically Active Vaccines: Low Temperature Preparation and Coating of Nanoparticles

*Ning Zhao,^a Jia-Xv Li,^{ab} Yong-Jiao Han,^{ab} Li-Ping Lv,^a Jiang Deng^{*a} and Yan-Yu Zhang^{*a}*

- a. Academy of Military Medical Sciences, Beijing 100850, China.
- b. College of Biotechnology, Tianjin University of Science & Technology, Tianjin 300457, China.

*Corresponding author.

Mail to: No.27 Taiping Road, Beijing, 100850, China.

Email: ammsdjaxm@163.com (Jiang Deng)

Email: swgczhyy@126.com (Yan-Yu Zhang)

Tel: +86-010-66931997

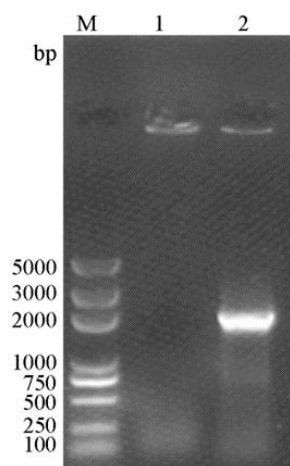


Fig. S1. Identification of Δ uvrA bacteria and original bacteria, 1: Δ uvrA bacteria; 2: original bacteria.

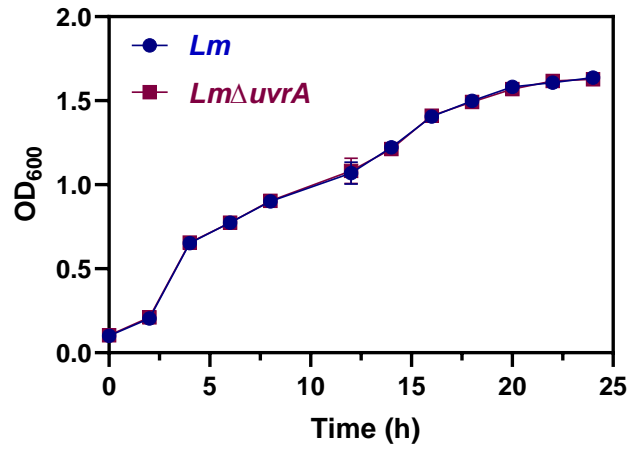


Fig. S2. Growth curve of *LmΔuvrA* and *Lm*.

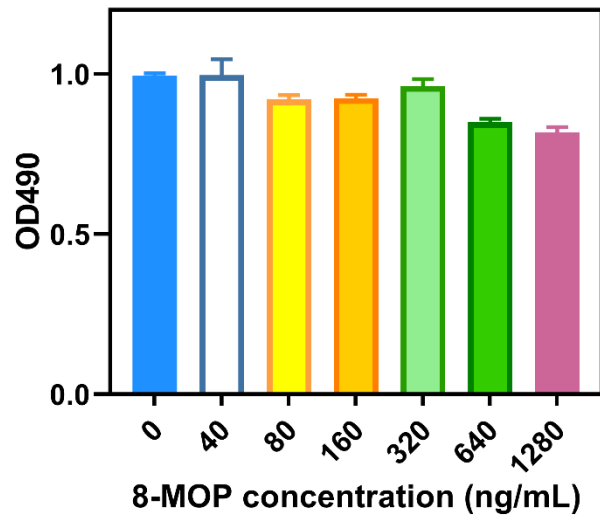


Fig. S3. The effect of 8-MOP on bacterial metabolic activity. Co-incubation of different concentrations of 8-MOP with bacteria for 40 min.



Fig. S4. Temperature display on the UVA-LEDs setup.

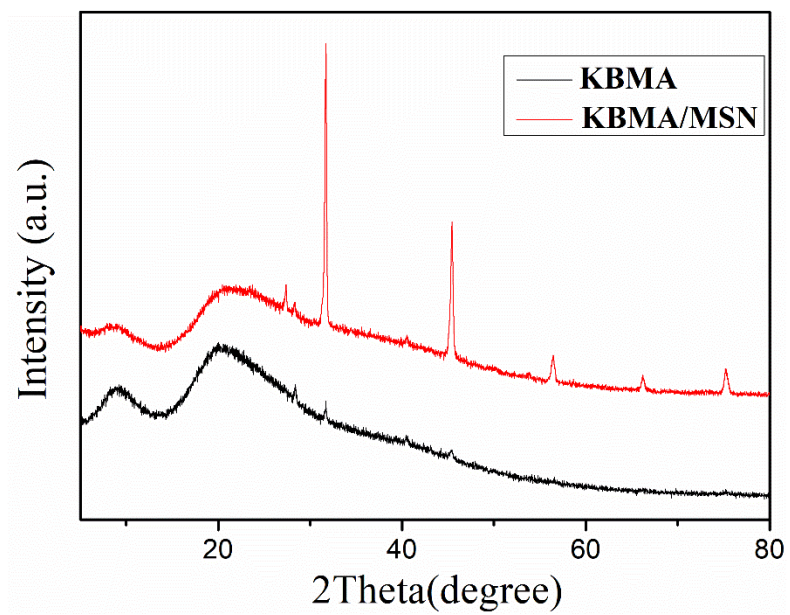


Fig. S5. XRD patterns of KBMA and KBMA/MSN.

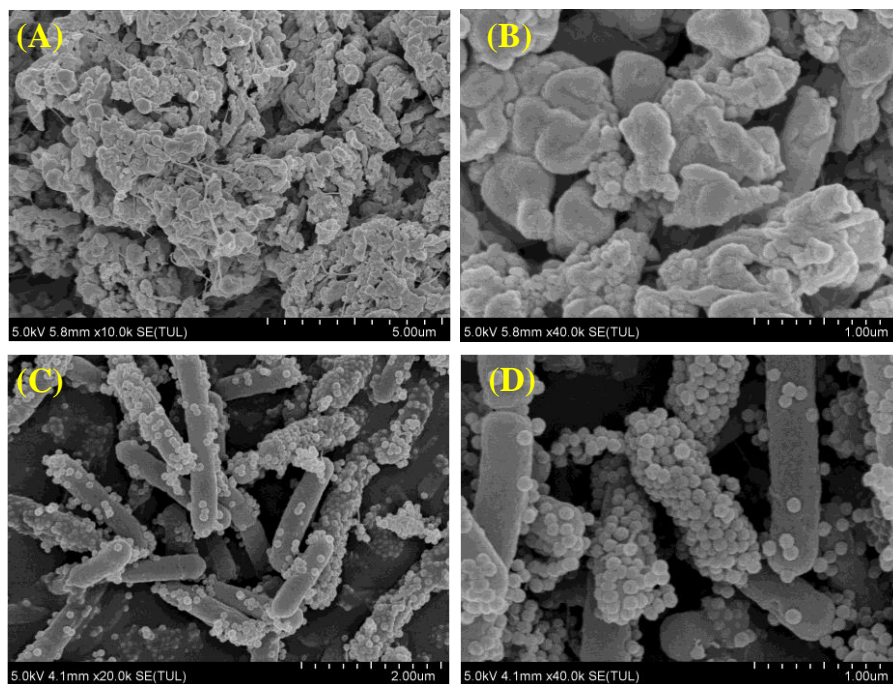


Fig. S6. (A -B) SEM images of KBMA/MSN bacteria after treatment with SPF for 48 h; (C-D) SEM images of KBMA/MSN bacteria.

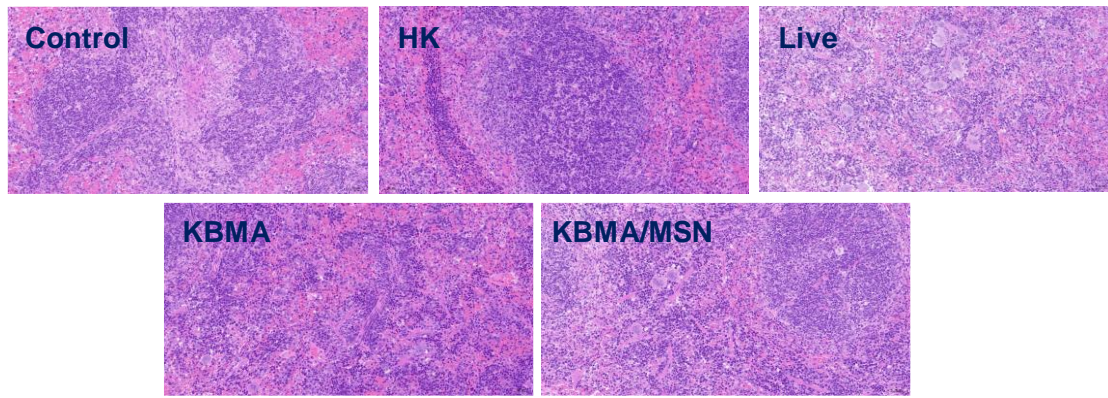


Fig. S7. Histological sections of the mice spleen (H&E magnifications, 200 \times) (n=3).