

Fig. S1. HPTLC plate for: a) BG₁ extract, and b) BG₂ extract with standard alliin



Fig. S2. Viscosity graph for log shear stress vs log shear rate using modified Casson equation for: a) experimental control nanogel and b) black garlic extract-based (BGE_{best}) nanogel



Fig. S3. Zones of inhibition of standard alliin-based nanogel and black garlic extract-based (BGE_{best}) nanogel against: a) *Staphylococcus aureus* (ATCC), b) *Escherichia coli* (ATCC) and c) *Escherichia coli* (MDR). MDR=multiple drug-resistant



Fig. S4. Skin irritation test of black garlic extract-based (BGE_{best}) nanogel on New Zealand white rabbits: a) demarcated area on dorsal skin immediately after application (0 h) and b) observation 72 h after nanogel was applied



Fig. S5. Wound-healing test on: a) rabbit R3 using black garlic extract-based (BGE_{best}) nanogel (2 %): *i*) before wound creation, *ii*) created wound, *iii*) observation on day 0 after the application, *iv*) initiation of tissue epithelization on day 3, *v*) wound closure on day 6, and b) rabbit R4 using BGE_{best} nanogel (4 %) *i*) before wound creation, *ii*) created wound, *iii*) observation on day 0 after the application, *iv*) initiation of tissue epithelization on day 0 after the application, *iv*) initiation of tissue epithelization on day 0 after the application, *iv*) initiation of tissue epithelization on day 0 after the application, *iv*) initiation of tissue epithelization on day 0 after the application, *iv*) initiation of tissue epithelization on day 0 after the application, *iv*) initiation of tissue epithelization on day 2, *v*) wound closure on day 6