

## Immunostimulatory Activity of *Solanum nigrum* Through TLR4-Mediated JNK Activation in RAW264.7 Cells

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In this study, we investigated the effect of *Solanum nigrum* aerial parts (SNAP) on macrophage activation and macrophage autophagy in RAW264.7 cells. SNAP increased the production of immunostimulatory factors and phagocytosis in RAW264.7 cells. TLR4 inhibition blocked SNAP-mediated production of immunostimulatory factors. In addition, the JNK inhibition reduced the SNAP-mediated production of immunostimulatory factors, and the SNAP-mediated JNK activation was blocked by the TLR4 inhibition. SNAP activated macrophage autophagy. TLR4 inhibition blocked SNAP-mediated macrophage autophagy and inhibition of p38 and JNK attenuated SNAP-mediated macrophage autophagy. These findings indicate that SNAP may induce TLR4/JNK-mediated macrophage activation and TLR4/p38 and JNK-mediated macrophage autophagy.

[This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF-2018R1A6A1A03024862).]

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