Macrophage-selective inhibitory effect of Kikyo-to, a Japanese traditional kampo medicine, on the viability of mouse macrophage RAW264.7 cells.

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Kikyo-to is a kampo medicine which is composed of Platycodi Radix (PR) and Glycyrrhizae Radix (GR), and used for Pharyngitis. As previous research in our laboratory has found the possibility that kikyo-to could influence cell viability of RAW264.7, we examined the effect of kikyo-to in detail.

Decoction of both crude PR and GR, that is kikyo-to (K-D), or each crude herbal medicine, or aqueous solution of extract granule preparation of kikyo-to (K-G) were exposed to RAW264.7 mouse macrophage-derived cells, CACO-2 human colorectal cancer cells and K562 human blood cancer cells. Viability of these cells were evaluated after exposure of various dilution of these preparations.

K-D decreased cell viability of RAW264.7 in a time and concentration-dependent manner and K-G also decreased cell viability of RAW264.7 in a concentration-dependent manner. In contrast, the viability of other cells did not change significantly. Decoction of GR alone decreased cell viability of RAW264.7, suggesting that components of GR may contribute to decrease in cell viability of RAW264.7, selectively. To confirm this hypothesis, further studies, functional analysis and clinical validations are needed.