

PREVENTIVE EFFECT OF ORAL ADMINISTRATION OF  
6-(METHYLSULFINYL)HEXYL ISOTHIOCYANATE FROM WASABI  
(*Wasabia Japonica Matsumu*) ON THE METASTASIS OF B16-BL6 MELANOMA  
CELLS INTO MOUSE LUNG

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We previously reported that, 6-MITC (6-(methylsulfinyl)hexyl isothiocyanate) from Japanese typical pungent spice wasabi (*Wasabia japonica Matsumu*) suppressed specifically the cell growth of both breast cancer and melanoma lines *in vitro* among the 39 human cancer cells examined. However, it is not clear whether the 6-MITC is also effective with respect to the tumor growth or the metastasis of these lines *in vivo*. We examined here the anti-metastatic activity of 6-MITC with respect to the murine B16-BL6 melanoma in syngeneic C57BL6 mouse.

Oral administration of 6-MITC suppressed the experimental metastasis of B16-BL6 melanoma cells into C57BL6 mouse lungs, whether it was administered in drinking water or in an experimental food diet containing a fraction from wasabi that was enriched with 6-MITC. Two experimental metastasis models were adopted for the study. One involved tumor cell inoculation through the tail vein, and the other involved injection into the right footpad.

Continuous administration of 6-MITC in drinking water beginning 2 weeks before the tumor inoculation was effective at reducing the numbers of the metastasized foci in the lungs. The spontaneous metastasis from the tumor-bearing site was also depressed by 6-MITC administration, especially when it was fed in an experimental diet. Intake of this 6-MITC enriched fraction (0.5-2% by weight in experimental diet), referred to as T-wasabi, was very successful at suppressing tumor metastasis in both experimental models. When feeding started prior to the inoculation of melanoma cells into the footpad, there was a dramatic reduction in the number of metastatic foci. These results, together with previous ones, suggest that the 6-MITC from wasabi is an useful dietary candidate for not only preventing tumor generation but also for controlling the progression of the tumor, including metastasis.