Han-Heom Na et al., J Cancer Sci Ther 2017, 9:4 (Suppl)
http://dx.doi.org/10.4172/1948-5956-C1-100

Acetylated mangostin alleviatesmany anticancer effects of mangostin at the molecular levels

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We have studied versatilepotential usages of acetylated derivativesof many flavonoidssynthesized by biochemical modification methods. Among them,Mangostin is reported to induce apoptosisand also reported to have a cancer preventive effect.In this study, we are to compare the anticancer effect between mangostin and acetylated mangostin (ac-mangostin). Mangostin treatment decreased the cell growth at 10 μg or greater concentration, but ac-mangostin treatment did not showed any growth inhibition at 10 μg concentrations. MTT assay showed thatproliferation effect was delayed by about 1/10 or more in ac-manogositin compared to mangostin.FACS analysis, that the sub G1 phase was increased at the treatment of mangostin and ac-mangostin. However, such a phenomenon could be delayed in the ac-mangostin treatment groupin time at the same concentration. To analyze this difference at the molecular level, we performed western blot analysis.Active form of PARP, or Caspase 9 and Bax are increased in mangostin treatment, but there was delayed in ac-mangostin treatment group.An anti-apoptotic protein Bcl-2 was decreased in mangostin treated group, but delayed in ac-mangostin treated group.Interestingly, putative biomarker protein for the drug resistance, FosB is increased in high concentration of mangostin, but delayed in ac-mangostin treated group.Therefore, these results suggest that the acetylation form of flavonoids can be useful drug for the preventionof cancer, because it can delay the cellproliferation activity and alleviate the efficacy of toxic anticancer drugs even at the same concentration.

Biography

Han-Heom Na has completed MSdegree from Kangwon National Universityat the age of 26 years,and is now studying as a PhD student inKangwon National University.Hehas published 3 papers onjournals related in cancer cell biology.Especially, I received the Best Poster Award at the Annual meeting of the Korean Society for Cell Biology held in Jan6, 2017.

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