

Identification and Bioavailability of a Chemopreventive peptide(lunasin) from *Solanum nigrum*

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Lunasin is identical to a soybean peptide isolated and sequenced more than a decade ago. Its carboxyl end contains 8 aspartic acid, preceded by cell adhesion motif Arg-Gly-Asp (RGD) and a predicted helix with structural homology to a conserved region of chromatin-binding protein. The RGD motif is known to allow tumor cell attachment to the extracellular matrix. This peptide is great potential to be a nontoxic chemopreventive drug. A lunasin-transfected cell arrested at the metaphase stage showed an asymmetric distribution of chromosome near one centriole, with some chromosomes appearing to migrate to the opposite pole and leaking out of the lysing cell.

Lunasin were searched from seeds of korean medicinal plants, used seed as drug. Among them, we found lunasin in mature seed of *Solanum nigrum*. In addition, we observed the contents of lunasin according to after flowering from *Solanum nigrum*.

In this research, we isolated and purified lunasin from *Solanum nigrum*. The bioavailability of a lunasin was observed by the inhibition of colony formation in 2-12 cells and in vivo histone acetylation in MCF-7 cells.

Key words : *Solanum nigrum*, lunasin, histone acetylation