# Growth Inhibitory Action of Monoacylglycerols from Vegetal Seed Oils in Human Colon Cancer Cells

L. Alarcón-González, P. Campra-Madrid, M. A. Rincón-Cervera, P. Cordón-Nadal, J.L. Guil-Guerrero.

Hydrogeology and Analytical Chemistry Department, University of Almería

Almería (Spain)

A major drawback of the current antineoplastic treatments is their lack of specificity toward cancer cells, because they are often cytotoxic to normal cells, thus creating related side effects. Hence, the identification of new growth inhibitors agents, specifically targeting malignant cells while sparing their normal counterparts, is of crucial interest. There are very few studies about the value of *sn*-2 monoacylglycerols (*sn*-2 MAGs), a family of lipids consisting of a single fatty acid (FA) moiety attached to a glycerol backbone, in the chemoprevention of cancer.

By means of an empiric approach, we have assessed the chemopreventive potential of MAGs, triacylglycerols (TAGs) and free FAs (FFAs) obtained after enzymatic hydrolysis of vegetal seed oil against the progression of colon cancer tumours. Colon cancer cells (HT29) as well as colon normal cells (CCD18) were exposed to culture medium supplemented with several concentrations of *sn*-2 MAGs, TAGs and FFAs.

Our results indicated that a mix of *sn*-2 MAGs from vegetal seed oil were able to induce dose-dependent growth inhibition in colon cancer cells. In striking contrast, colon normal cells were resistant to the same treatment. In addition, both cell lines were resistant to all the concentrations of TAGs and FFAs which is consistent with our assumptions that FAs forming part of *sn*-2 MAGs are the only effective form in acting on cancer cells.