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# Inhibition of END and ENL to the process of proliferation, invasion and transformation of ovarian cancer

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Ovarian cancer is one of the three main malignancies for female whose morbidity is ranked second only to cervical cancer and endometrial cancer while has the highest death rate among all these three cancers. Some data from the clinical trials indicate that the resistance to chemotherapy drugs, the lack of special symptom in early phase and the liability to invasion and metastasis are challenges in the treatment of ovarian cancer. These years, many scholars pay attention to phytoestrogens with the preventive effect of it to cancers being testified by more and more reports. Phytoestrogens are various kinds of steroids that are obtained from plants which can be divided into soy isoflavone and lignans and they abound in some edible plants like soybean, flax and vegetables and fruits. Phytoestrogen has a structural similarity with estradiol. Phytoestrogen can attach to the estrogen receptor and function as oestrogen-like hormone. Because of the potential effect of prevention and treatment to estrogen-dependent disease, Phytoestrogen have attracted a wide spread attention in recent years. Some study speculates that the various kinds of physiological effects that phytoestrogen have on us result in the mammalian lignan as its metabolite rather than itself of which mainly are END and ENL. As mammalian lignan has estrogen-like biological activity and has great relation to various kinds of enzymes and proteins in animal organism, it has aroused people's attention increasingly since it was first confirmed in 1980. Through MTT cell proliferation experiment, Trans well invasion assay, Wound Healing cell wound scratch assay and gelatin zymography experiment, we can get a preliminary confirmation that END and ENL have evidently inhibition to the process of proliferation, invasion and transformation of ovarian cancer, meanwhile evidently inhibit the activity of MMP-9. And we find that at the concentration of 10-3 mol/L there is a most evident inhibition to the process of proliferation, invasion and transformation of ovarian cancer with stronger additive effects. However, under the circumstance of low concentration of medicine, there is a proliferative effect. As a result, we believe that GPER may probably involve in the above-mentioned regulation. The study gives a Clear proof that mammalian lignan END and ENL are effective anti-epoophoron cancer agents. And the study provides new proof to the anticancer mechanism of END and ENL which can provide molecular targets to the study of plant-derived anti-carcinogen. We believe that as the research of Enterodiol and Enterolactone in Neoplastic Disease continues, the Bio-medical transformation work in our laboratory will gain a greater application value following with a good economical and social benefit.

## Biography

Tianyi Liu is studying Pharmacy in Harbin Medical University (HMU), Harbin, China. During her two years' study, she has acquired abundant medical knowledge, meanwhile have successfully won scholarships every term. With strong interest and curiosity, she joined the research group of genomic research of ovarian cancer and natural anti-cancer drugs of which the leader is Huidi Liu, her Bacterial Systematics teacher.

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