

Inhibitory Effects of Plant Extracts on Postproline Cleaving Enzyme Activity in Human Breast Cancer Cells

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Effects of crude extracts from three herbs: *Rhaponticum carthamoides* (maral root), *Tanacetum vulgare* L. (tansy) and *Tribulus terrestris* L. (small caltrops) on the postproline-specific enzyme activity in the human triple negative breast carcinoma cell line MDA-MB-231 were investigated. In all cases, a concentration-dependent inhibition was observed, with the degree of inhibition from *T. vulgare* L. being the highest. Different tansy extracts, also had a pronounced inhibitory dose-dependent effect on the enzyme activity in this cell line. The highest effect was observed using the ethyl acetate/aqueous extract from *Flores Tanacetii*. Since the proline specific enzymes are known to participate in different tumors growth, it could be concluded that the natural inhibitors from tansy have a potential to be used as therapeutic anti-cancer agents.

Key words: postproline-specific enzymes, *Tanacetum vulgare* L., *Tribulus terrestris* L., *Rhaponticum carthamoides*, MDA-MB-231 cells