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「Inhibitory effect of naturally source compounds on human cancer lung, prostate and breast cell growth.」

ヒト由来肺、前立腺、乳がん細胞増殖での天然物由来資源での抑制作用

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Tabebuia avellanedae (Bignoniaceae) (TA), which is native in South America from Brazil to northern Argentina, is well known in traditional folk medicine used for the treatment of various disease during five hundred years. The inner bark of this plant produced in Brazil is distributed in Asia as a herb tea and healthy purpose. Previously, we reported that extract essense of TA(TA ess.) and including naphthoquinones type compounds, lapachol and NQ801 inhibited TPA-induced *in vitro* assay and thereby acted as a chemopreventive agents against carcinogenic compounds.

In this study, the purpose of other potency of these useful samples was to develop new active effect, cytotoxic function as an effective cancer chemosensitivity test. Effect of TA ess., lapachol and NQ801 on cancer cell growth was investigated using three cell line, A549, PC-3 and MCF-7 which are human derived organ cell line. Physiological concentration of TA ess. had weak growth inhibitory effect in three cell lines, when cells were treated with 1.5 mg/ml for 72 h. In contrast, lapachol and NQ801 had significantly inhibited dose-dependent in same cell line after 72 h incubation. During the course of our studies to evaluate the materials of effective potency for cancer treatment, we attempted to link feasibility of *in vivo* model with extract of TA and naphthoquinone like compounds. These test date accumulated so far strongly suggest its role as support and helpless to malignant tumor, using these materials.

■日本語要約

タベブイア・アベラネダエ（TA）は、南米のブラジルから北部アルゼンチンにかけて自生する樹木で、薬用植物として、500年以上に亘って種々の疾患に対して伝承薬物として使用されてきた。ブラジル産であるこの樹木の内部樹皮は、アジアでは主に飲料茶として供給されている。先に我々は、TAの抽出エッセンス（TA ess.）とそれに含まれるナフトキノンタイプの化合物であるラパコールとNQ801が、TPAにて誘発される試験管内分析法にて抑制されること、さらに発がん物質に対してがん予防作用を有することを報告した。今回の研究では、これら有用化合物の他の期待される活性を目的として、新たながん化学療法試験の一環として細胞毒性試験としての効果を評価した。がん細胞増殖での効果をTA ess.、ラパコール、NQ801について、A549、PC-3、MCF-7のヒト由来がん細胞を用いて調べた。TA ess.の整理濃度1.5mg/mlでは、72時間の処理では弱い増殖抑制しか示さず、一方、ラパコール、NQ801は、同様の細胞で72時間の処理では濃度依存的に顕著な抑制を示した。さらにこの有用化合物のがん疾患における評価の研究の過程で、我々はTA抽出物とナフトキノン様化合物の動物モデルとの可能な関連性を試みた。これらの試験のデータは、これら化合物を用いた悪性腫瘍への、治療補助の役割を強く支持するものである。