

# ANTI-PROLIFERATIVE AND ANTIOXIDATIVE ACTIVITIES OF THAI NONI/ YOR (*MORINDA CITRIFOLIA* LINN.) LEAF EXTRACT

Wasina Thani<sup>1</sup>, Omboon Vallisuta<sup>1</sup>, Pongpan Siripong<sup>2</sup> and Nongluck Ruangwises<sup>3</sup>

<sup>1</sup>Department of Pharmacognosy, <sup>3</sup>Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Mahidol University, Bangkok; <sup>2</sup>National Cancer Institute, Medical Department, Ministry of Public Health, Bangkok, Thailand

**Abstract.** In this study the leaves of the Thai noni/Yor, (*Morinda citrifolia* Linn.) were extracted by several methods and evaluated against human cancer cell lines: KB (human epidermoid carcinoma), HeLa (human cervical carcinoma), MCF-7 (human breast carcinoma) and HepG<sub>2</sub> (human hepatocellular carcinoma) cell lines as well as a Vero (African green monkey kidney) cell line, employing the MTT colorimetric method, comparing it to damnacanthal, rutin, and scopoletin. The dichloromethane extract of the fresh leaf showed a better inhibitory effect against KB and HeLa cells with IC<sub>50</sub> values of 21.67 and 68.50 µg/ml, respectively. The dichloromethane extract of dried leaves revealed cytotoxicity against the KB cell line with an IC<sub>50</sub> value of 39.00 µg/ml. Other extracts, as well as rutin and scopoletin, showed reduced anti-proliferative effects on all cancer cell lines (IC<sub>50</sub> 103 to over 600 µg/ml). Interestingly, the damnacanthal had potent cytotoxicity against all cancer cell lines and Vero cell lines. These results suggest Thai noni extracts may be safer than the pure compounds, due to their higher safety ratios, which is a good indicator for possible cancer treatment. Several non-aqueous extracts from the leaves showed antioxidant properties, giving IC<sub>50</sub> values of 0.20-0.35 mg/ml. It can be concluded the leaves of *M. citrifolia* may have benefit as a food supplement for chemoprevention against epidermoid and cervical cancers.

**Key words:** *Morinda citrifolia* Linn., Thai noni, leaf extract, anti-proliferative effects, anti-oxidative activity, cancer cell lines

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Correspondence: Omboon Vallisuta, Department of Pharmacognosy, Faculty of Pharmacy, Mahidol University, 447 Sri-Ayudhaya Road, Ratchathewi, Bangkok 10400, Thailand.

Tel: +66 (0) 86330 8828; +66 (0) 2644 8677 8691 ext 5532, 5530; Fax: +66 (0) 2644 8701

E-mail: pyoln@mahidol.ac.th