

## Inhibitory Effect on TNF-Alpha Release of Dioscorea membranacea and Its Compounds

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**Abstract :** The rhizomes of *Dioscorea membranacea* (DM) has long been used in Thai Traditional medicine to treat cancer and inflammatory conditions such as rheumatism. The objective of this study was to investigate anti-inflammatory activity by determining the inhibitory effect on LPS-induced TNF- $\alpha$  from RAW264.7 cells of crude extracts and pure isolated compounds from DM. Three known dihydrophenanthrene compounds were isolated by a bioassay guided isolation method from DM ethanolic extract [2,4 dimethoxy-5,6-dihydroxy-9,10-dihydrophenanthrene (1) and 5-hydroxy-2,4,6-trimethoxy-9,10-dihydrophenanthrene(2) and 5,6,2 -trihydroxy 3,4-methoxy, 9,10- dihydrophenanthrene (3)]. 1 showed the highest inhibitory effect on PGE2, followed by 3 and 1 (IC50 = 2.26, 4.97 and >20  $\mu$ g/ml or 8.31,17.25 and > 20  $\mu$ M respectively). These findings suggest that this plant showed anti-inflammatory effects by displaying an inhibitory effect on TNF- $\alpha$  release, hence, this result supports the usage of Thai traditional medicine to treat inflammation related diseases.

**Keywords :** *Dioscorea membranacea*, anti-inflammatory activity, TNF-Alpha , dihydrophenanthrene compound

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