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Cytotoxic activities of extracts and isolated compounds of some potential sumatran medicinal plants against MCF-7 and HSC-3 cell lines (Article) [\(Open Access\)](#)

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Abstract

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In continuation of our study of Sumatran plants and the bioactivity of their constituents, *Stereocaulon halei* Lamb (Stereocaulaceae) was extracted and isolated to obtain atranorin (1), lobaric acid (6), and methyl- β -orcinol carboxylate (9). We also prepared methanolic extracts of some Sumatran medicinal plants, i.e. *Alpinia denticulata*, *Alpinia malaccensis*, *Alpinia submutica*, *Curcuma zedoaria*, *Centella asiatica*, *Mangifera indica*, *Piper crocatum*, *Mussaenda frondosa*, together with previously isolated compounds, i.e. crocatin A (2) and crocatin B (3) from *P. crocatum*, curcumin (4) from *Curcuma longa*, demethoxymatteucinol (5) from *Sphaerostephanos polycarpus*, mangiferin (7) from *M. indica*, methyl caffeate (8) from *Balanophora elongata*, tiliroside (10) from *Guazuma ulmifolia*, and usnic acid from *Usnea* sp (11). These extracts and compounds were tested for their cytotoxicity against MCF-7 and HSC-3 cell lines by MTT assay (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide). It was found that the IC₅₀ value of atranorin (1), lobaric acid (6), methyl- β -orcinol carboxylate (9), and methanolic extract of *A. submutica* towards the MCF-7 cell line was 208.20 μ M, 172.05 μ M, 382.60 μ M and 70.95 μ g/mL, respectively. The IC₅₀ value of lobaric acid (6) and methyl- β -orcinol carboxylate (9) against the HSC-3 cell line was 88.92 μ M and 260.09 μ M, respectively. The other extracts did not show significant cytotoxicity. © 2019 Published by ITB Journal Publisher.

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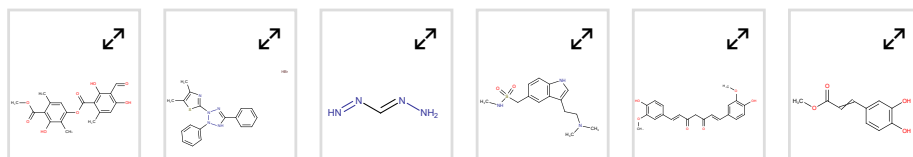
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