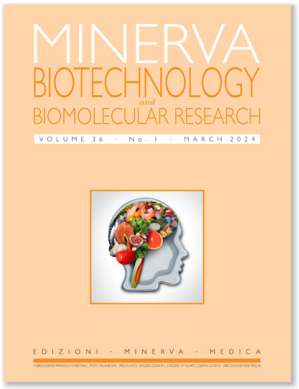

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Trema Orientalis (Linn) Blume stem bark: polyphenol profile, in-vitro antioxidant and anti-proliferative activities on the A549 cell line

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BACKGROUND: *Trema orientalis* (Linn) Blume is a plant that can be found in Australia, Asia, and Africa. Its stem bark is utilized in western Nigerian traditional medicine to cure a variety of illnesses. The study was designed to evaluate the polyphenol profile, antioxidant and anti-proliferative activity of methanol extract, butanol and aqueous fractions of *T. orientalis*.
METHODS: Maceration was used to generate the methanol extract, and solvent-solvent partitioning was used to produce the butanol and aqueous fractions. DPPH, metal chelating, and various reducing power assays were used to evaluate the antioxidant activity of the extract/fractions. The anti-proliferative activity of the extract/fractions on the A549 cell line was investigated using MTT assay, DAPI (4', 6-diamidine-2'-phenylindole) staining, and measurements of mitochondria membrane potential (MMP), intracellular reactive oxygen species (ROS), along with Western blot, and RT-qPCR studies. Using ultra-high performance liquid chromatography (U-HPLC) with a diode detector and a C18 column, the polyphenolic contents of the extract/fractions were identified.