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Toronto, Canada**Antioxidant activity of fungal endophytes isolated from *Kigelia africana*, *Annona senegalensis* and *Vitex payos***Edson P Sibanda^{1,2}, Musa Mabandla² and Takafira Mduluza^{2,3}¹Scientific and Industrial Research and Development Centre, Zimbabwe²University of KwaZulu Natal, South Africa³University of Zimbabwe, Zimbabwe

The endophytes of medicinal plants are largely underexplored despite their potential as repositories of bioactive compounds including natural antioxidants. The purpose of this study was to evaluate the total antioxidant capacity (TAC) of ethyl acetate extracts of endophytic fungi isolated from the medicinal plants *Kigelia africana* (*Penicillium species*), *Annona senegalensis* (*Epicoccum sorghinum*) and *Vitex payos* (*Epicoccum nigrum*). The TPC was determined using the Folin-Ciocalteu method. The OxiSelect™ total antioxidant capacity assay kit was used to evaluate the TAC. Fourier transform infrared (FTIR) analysis of the crude extracts was also done to determine the possible different functional groups present in the extracts. The extract obtained from the endophyte *Epicoccum sorghinum* isolated

from *Annona senegalensis* demonstrated both the highest total phenolic content (28.85±1.14 mg GAE/g dry weight) and total antioxidant capacity (593.46±1.86 μM CRE). A strong positive linear correlation (r=0.95717) was found between total antioxidant capacity and total phenolic content of the tested crude extracts. The FT-IR spectral analysis of the crude extracts confirmed the presence of molecules carrying bonded hydroxyl (-OH) functional group characteristic of phenolic compounds. The preliminary results indicated that the studied endophytic fungi produced metabolites with potential as sources of natural antioxidants and that the TPC influences TAC.

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