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Targeted HPLC-MS analysis of sesame (*Sesamum indicum* L.) seeds, roots and hairy roots

Mebeaselassie Andargie, Zana Jamal, Anna Rathgeb and Petr Karlovsky

Molecular Phytopathology and Mycotoxin Research, University of Göttingen, Grisebachstr. 6, 37077, Göttingen, Germany

E-mail: mebhel@yahoo.com

The metabolic profiles of sesame seeds, roots and hairy roots of twenty-five sesame cultivars that were collected from different parts of the world were analyzed using high-performance liquid chromatography-mass spectrometry (HPLC-MS). The results showed significant differences in metabolome among the sesame cultivars and four differential metabolites namely pinoresinol, sesamin, sesaminol and sesamolin were identified in the seeds while one metabolite-sesamin was identified in the roots and hairy roots respectively. Quantification of these compounds by HPLC-MS showed that sesamin was the major compound in both the seeds, roots and hairy roots. The results of this study exhibited useful lignan information of the different sesame cultivars collected across different regions and identified potential cultivars having high sesamin and other related lignans for functional food, pharmaceuticals and cosmetic industries.