

## Radioprotection Activity of *Moringa oleifera* (Sajne) and its active components: Assessment of Nrf2 and NF- $\kappa$ B Transcription Factor Cross Talking System

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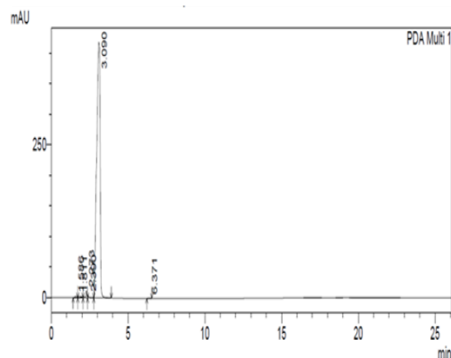
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The major objective of the proposal was to evaluate whether *Moringa oleifera* leaf extract or its active compounds have any beneficial effect against radiation induced damage using *in vitro* and *in vivo* models; if it is then to determine the molecular mechanisms and the molecular targets of these phyto components; to establish the molecular cross talk between transcription factor NF- $\kappa$ B and Nrf2 in ionizing radiation induced oxidative stress model. To address the issues, in the initial phases of this project we prepared two different extracts (Aqueous extract and Methanolic extract) using two solvents i.e., aqueous and methanol of *Moringa oleifera* dried leaf powder. We used several characterization procedures to evaluate their antioxidative potentials including DPPH $\cdot$ , OH $\cdot$  radicals and H<sub>2</sub>O<sub>2</sub> scavenging activities and iron chelating activity. We performed HPLC analysis to identify active components present in the extracts. It was found that both the extracts showed antioxidative potentials. The methanolic extract (M-LE) showed more potent radical scavenging activity and iron chelating activity than aqueous extract (AQ-LE). The HPLC analysis showed that naringenin, a polyphenol was present in both of these two extracts. Further analysis of these extracts will reveal presence of more bioactive components.

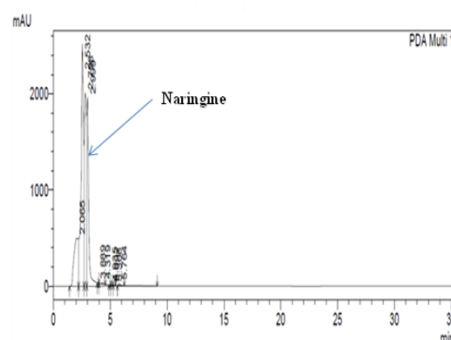
### Ongoing work:

- Preparation of leaf extract using ethanol.
- Characterization of this ethanolic leaf extract (antioxidative potential).
- HPLC analysis of all these extracts to identify different phytochemicals like quercetin, epicatechin, Kaemferol and naringenin, an aglucone of naringin.

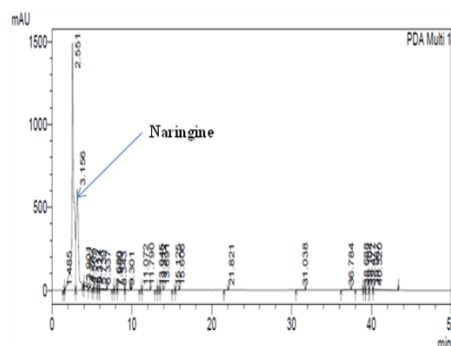


A

HPLC analysis of leaf extracts.  
A: Peak of Naringine (standard).  
B: HPLC analysis of AQ-LE.  
C: HPLC analysis of M-LE.



B



C