

Supplementary Information

Anthelmintic activity of *Ferula asafoetida* against the model worm *Caenorhabditis elegans*

Nidhi Thakkar¹, Gemini Gajera¹, Sanjay Joshi², Sriram Seshadri¹, Vijay Kothari^{1*}

¹Institute of Science, Nirma University, Ahmedabad, India

²National Foods, Baroda, India

*vijay.kothari@nirmauni.ac.in

We investigated the anthelmintic activity of a *Ferula asafoetida* variety (Pinaxi) against the model worm *Caenorhabditis elegans*. As positive controls, we employed two commonly used anthelmintic agents, benzimidazole and ivermectin. The following video clips illustrate the anthelmintic effect of *F. asafoetida* and the positive control compounds. These videos were captured at 24 h time point after challenging the worms with DMSO-soluble fraction of *F. asafoetida*, through Olympus inverted phase contrast microscope (CKX53; 10X objective).

Videos A1-A2: Control worm population in M9 buffer. Live worms do not get stained with neutral red or trypan blue.

Videos B1-B2: Vehicle control: Worm population in M9 buffer supplemented with 0.5%v/v DMSO. Live worms do not get stained with neutral red or trypan blue. This much DMSO had no effect on worm survival.

Videos C1-C2: Worms exposed to benzimidazole (15 ppm) exhibit normal movement and do not get stained with neutral red or trypan blue.

Videos D1-D2: Worms exposed to benzimidazole (1000 ppm) exhibit no movement indicating death, and the dead worms get stained with neutral red or trypan blue.

Videos E1-E2: Worms exposed to ivermectin (1 ppm) exhibit no movement indicating death, and the dead worms get stained with neutral red or trypan blue.

Videos F (i-iii): Worms challenged with *F. asafoetida* (15 ppm) exhibits slow (i) or abnormal (ii) movement or appear dead, and the dead ones (iii) get stained with trypan blue. Remaining apparently normal moving worms died beyond the 24 h time point (their subsequent death is not captured in this video).

Videos G1-G2: Worms challenged with *F. asafoetida* (50 ppm) died, and the dead worms got stained with neutral red or trypan blue.