

1. **Title of research project:** “Anti-inflammatory activity of molecular distilled fish oil”
2. **Name of PI:** Prof. G. N. Zambare
3. **Funding Agency:** UGC
4. **Project Reference number/ File number:** 47-104/02 (WRO)
5. **Executive summary of the project along with output:**

The objective of the project was to evaluate the analgesic, anti-inflammatory activities of molecular distilled fish oil in laboratory animals. Fish oils were purchased and distilled in the laboratory before its screening as an analgesic, anti-inflammatory activity. The molecularly distilled fish oil was evaluated for analgesic activity by monitoring following parameters.

- a. **Peripheral analgesic activity:** The molecularly distilled fish oil inhibited number of writhings, thus showed peripheral analgesic activity when compared to piroxicam. It was found to be 100 times less potent than piroxicam.
- b. **Central analgesic activity:** The molecularly distilled fish oil did not show central analgesic activity.

The molecularly distilled fish oil was also evaluated for analgesic activity by monitoring following parameters.

- a. **Evaluation of anti-inflammatory activity:** The molecularly distilled fish oil inhibited carrageenan induced rat paw edema at 3h and 24h.
- b. **Chronic inflammation:** The molecularly distilled fish oil inhibited cotton pellet granuloma in rats in comparison with COX-2 inhibitor celecoxib. The molecularly distilled fish oil was found to be 50 times less potent.
- c. **Topical application:** The molecularly distilled fish oil was found to be 4 times less potent than celecoxib. It has longer duration of action evident from difference in 3<sup>rd</sup> hour and 24 hour result.

Safety profile : LD50 of the molecularly distilled fish oil was found to be >5000mg/kg.

M. Pharmacy degree (Pharmacology) was awarded based on the findings of this work.