Hypothesis

NAR and RUT have potential neuroprotective, antioxidant, anti-inflammatory, target organ protective and other pleiotropic actions. Hence, we hypothesise that NAR and RUT protects against DOX-induced cognitive dysfunction and other systemic organ toxicity without affecting the anticancer potential of DOX.

Objectives

- To assess the gender difference for the extent of episodic memory in male and female rats so as to find the suitability of using female rats for studying memory processes and the chemobrain associated complications
- To assess memory enhancing potential of NAR and RUT in two differentially challenged models for assessing episodic memory component by novel object recognition task
- To standardize a model by inducing cognitive decline by chronic administration of DOX in normal and mammary tumor rats
- To evaluate the protective effect of NAR and RUT against DOX-induced cognitive dysfunction in normal and tumor rats without affecting the DOX anti-cancer potential
- To assess the in-vitro neuroprotective mechanisms of NAR and RUT against DOX-induced neurotoxicity