

## List of Pharmacological Activities Done for PHPC Compound

Sr. No.	Type of Study	Experimental Model Used
1.	In-vitro anti-cancer study	MTT assay using breast cancer line
2.	Acute Toxicity Study	Acute Oral Toxicity study as per OECD 425 guideline
3.	Chemo- preventive Study	Protective effect of PHPC Compound against 5-FU induced toxicity study
4.	Sub chronic toxicity study	90 days oral toxicity study as per AYUSH and OECD 408 guideline.
5.	In- vivo Anti-cancer activity	DMBA induced breast cancer Model.
6.	Comet assay	Effect on cellular DNA damage

## *Pre-clinical Safety & Efficacy Study of PHPC Compound Syrup*

### ABSTRACT

PHPC Compound is the patent and proprietary medicine developed by Benmoon Pharma Research Pvt Ltd., Ahmedabad. The entire study was planned to do evaluation of efficacy and safety of PHPC Compound in experimental animal's models.

First it was screened in-vitro using breast cancer cell line using MTT assay method, wherein it has shown significant reduction in viable cancerous cells.

After promising result in in-vitro study, safety was checked using Acute toxicity study (OECD 425), wherein it was found safe till the dose of 2000-5000mg/kg, orally.

Further, for long term usage of this formulation, its sub-chronic (90 days) oral toxicity study was done (AYUSH & OECD 408 guideline) in rats and guinea pigs, wherein it shows no significant toxic sign, symptoms and in histology too. To check whether it retards toxic effects against chemotherapeutic agents induced toxicity, it was evaluated against 5-FU model, wherein also it has shown chemo-preventive activity.

To check its effectiveness against breast cancer, it was further screened against DMBA-induced cancer model, wherein also it has shown significant reduction in occurrence of tumor, reduction in tumor size and volume. DMBA induced breast cancer by DNA mutation and increasing free radicals level. The treatment of PHPC Compound reduces free radical levels as evident by significant increase in SOD and Catalase level. Further, it reduces serum level of SGOT and SGPT level, which usually get secreted during tissue damage.

Further to check the effectiveness of the PHPC Compound on DNA damage in individual cells of cancer cell line. In the present study, in 5-FU (5.0µg/ml ) treated cell line, there was reduction in % Head and increase in % Tail, which indicates DNA damage in L929 and MCF-7 cell line. Wherein in case of Test drug (20, 40 and 60 µg /ml) groups, there was significant increase in % Head and decrease in % Tail, which indicates that test drug provides chemopreventive effects.

In brief, PHPC Compound has shown promising level of safety and efficacy in experimental animal models.