Curcuminoids, a major constituent of *Curcuma longa* is a mixture of three, different chemical moieties namely Curcumin, Demethoxycurcumin, and Bisdemethoxycurcumin. Although earlier literature reveals that in various studies Curcumin and curcuminoids are treated as the same entity possibly because CUR constitutes the major part (almost 77%) in the mixture. Since natural CUR is relatively unstable and can be easily degraded in vivo, it is essential to explore other stable curcuminoids.

On these bases, this study has been designed to evaluate and compare the individual pharmacological potency of individual Curcumin, DMC, BDMC and their combination.

The objectives are:

1) To extract, isolate and standardize the individual curcuminoids.

2) To study the anti-arthritic effect of curcumin I, II, III & their combination using Freund’s complete adjuvant models in rat.

3) To screen the neuro-protective potential of individual curcuminoids (curcumin I, II, III) & their combination on 6-OHDA induced rat model.

4) To screen the anti-proliferative effect of curcumin I, II, III & their combination against MCF-7 cell line using MTT assay.