ABSTRACT

In modern age, stress induced aging has become a challenge because of many health, social and economic issues. Chronic and prolonged exposure to stress accelerates the process of natural aging. SIPS is mainly associated with oxidative stress and cellular senescence. In last few decades, plant based antioxidants have been used to reverse age related changes due to their antioxidant potential. Therefore, the present study was designed for the evaluation of anti-aging potential of *Bauhinia variegata* bark extract by using D-galactose induced aging model in mice. Different biochemical and histological readouts were used such as catalase, MDA, TAC, glutathione reductase, SA-β-gal and lipofuscin granules.

D-galactose was injected in mice intraperitoneally for 8weeks to induce aging as a result of which the activity of antioxidant enzymes was highly compromised. Different doses of *Bauhinia variegata* bark extract were given as treatment. The results of current study demonstrated that the administration of high dose (400mg/kg) of *Bauhinia variegata* bark extract restored the activity of catalase and also reduced the level of MDA, SA-β-gal and lipofuscin granules accumulation. These findings highlight the fact that *Bauhinia variegata* bark extract has antioxidant potential and it can act as therapeutic agent for up-regulating the age related oxidative damage and other cellular changes.

Keywords: Stress induced premature Aging, D-galactose, *Bauhinia variegata*, catalase, MDA, TAC, glutathione reductase, SA-β-gal, lipofuscin granules