

# Contents

<b>1. Introduction</b>	<b>1- 39</b>
<b>2. Materials and methods</b>	<b>40- 86</b>
<b>2.1. Experimental animals</b>	
<b>2.2. Preparation of extract</b>	
<b>2.3. Phytochemical analysis</b>	
<b>2.4. Thin layer chromatography</b>	
<b>2.5. Micronucleus Assays</b>	
<b>2.6. Biochemical studies</b>	
<b>2.7. Radiation injury/sickness, hematological,         histopathological and behavioral studies</b>	
<b>2.8. Antitumor Studies</b>	
<b>2.9. Positive mutagens</b>	
<b>2.10. Statistical analysis</b>	
<b>3. Protective effects of extract/ solvent fractions of     <i>Piper nigrum</i> Linn. and <i>Piper betle</i> Linn.</b>	<b>87- 147</b>
<b>4. Antitumor effects of extract/ solvent fractions of     <i>Piper nigrum</i> Linn. and <i>Piper betle</i> Linn.</b>	<b>148- 160</b>
<b>General Discussion, Summary and Conclusion</b>	<b>161- 169</b>
<b>References</b>	<b>170- 190</b>
<b>Photographic plates</b>	