Histopathology of important organs:

Gross pathology at terminal sacrifice revealed normal tissue architecture in high dose, intermediate dose or low dose group of animals of *Boswellia serrata* as compared to control group of animals. In case of high dose group rough and dull body coat was observed in some animals of both sexes. The tissues were preserved in 10% neutral buffered formalin and processed, embedded in paraffin, sectioned and stained with hematoxylin and eosin.

Following organs were subjected to histopathological studies: Liver, Kidney, Lung, Spleen, Brain, Adrenal, Heart, Stomach, Small intestine, Large intestine, Testis, Ovaries, Eyes, and Skin. Microscopic examination of the different tissue showed the following profile (Plates 1.1-1.15).

**Liver:** No significant changes in the liver microscopic profile could be observed at low dose, intermediate dose and high dose levels and showed normal cytoarchitecture.

**Kidney:** Repeated administration of *Boswellia serrata* did not reveal any significant changes in the cytoarchitecture of the kidney at all the three dose levels studied.

**Lung:** At low dose level, lungs exhibited normal cytoarchitecture in all except one rat in which moderate degree of cell and fluid effusion was observed. At intermediate dose moderate degree of cell and fluid effusion was observed in two rats in the remaining, lungs were normal. At high dose level lungs exhibited normal cytoarchitecture. In two control rats also cell infiltration of mild to moderate intensity was observed (indicating non-drug related cause).

**Spleen:** At low dose and intermediate dose level normal cytoarchitecture was observed in all rats. In high dose administered group sections from all rats exhibited normal cytoarchitecture and only in two rats increased white pulp proportion was observed.

**Brain:** No significant changes in the brain histology could be observed at low dose, intermediate dose and high dose levels and showed normal cytoarchitecture.

**Adrenal:** No remarkable changes in the cytoarchitecture of the adrenal could be noted in *Boswellia serrata* administered groups in comparison to control.
Heart: Repeated administration of *Boswellia serrata* for 90 days did not reveal any noticeable changes in the cytoarchitecture of the heart at all the three dose levels studied.

Stomach: No remarkable changes in the cytoarchitecture of the stomach could be noted in *Boswellia serrata* administered groups in comparison to control.

Small Intestine: The microscopic examination of the sections from small intestine showed normal cytoarchitecture and no remarkable changes in the different layers of small intestine could be noted after 90 days repeated administration of *Boswellia serrata* in comparison to control.

Large Intestine: Examination of the sections from large intestine showed normal cytoarchitecture and none of the dose level exhibited disturbance in different layers of large intestine after 90 days repeated administration of *Boswellia serrata* in comparison to control.

Testis: Examination of the sections of testis in low dose administered group revealed normal cytoarchitecture with moderate to good spermatogenesis. In the remaining two groups normal cytoarchitecture with good to very good spermatogenesis was observed.

Ovary: Sections of ovary from low dose, intermediate dose and high dose administered groups exhibited normal cytoarchitecture.

Eye: None of the ocular layers from *Boswellia serrata* administered groups exhibited disturbance in the cytoarchitecture in comparison to control group.

Skin: Sections of skin from low dose, intermediate dose and high dose administered groups exhibited normal cytoarchitecture.
Plate 1.1: Photomicrograph of the section of liver architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of \textit{Boswellia serrata}) and group D (high dose female treated at 1000 mg/kg b.wt. of \textit{Boswellia serrata}). Hematoxylin-eosin, 100X

Plate 1.2: Photomicrograph of the section of kidney architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of \textit{Boswellia serrata}) and group D (high dose female treated at 1000 mg/kg b.wt. of \textit{Boswellia serrata}). Hematoxylin-eosin, 100X
Plate 1.3: Photomicrograph of the section of lung architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X

Plate 1.4: Photomicrograph of the section of spleen architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X
Plate 1.5: Photomicrograph of the section of brain architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X

Plate 1.6: Photomicrograph of the section of adrenal architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X
Plate 1.7: Photomicrograph of the section of heart architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X

Plate 1.8: Photomicrograph of the section of stomach architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X
Plate 1.9: Photomicrograph of the section of small intestine (jejunum) architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X

Plate 1.10: Photomicrograph of the section of small intestine (duodenum) architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X
Plate 1.11: Photomicrograph of the section of large intestine architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X

Plate 1.12: Photomicrograph of the section of testis architecture of Wistar rats showing normal features of group A (control male) and group B (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X
Plate 1.13: Photomicrograph of the section of ovary architecture of Wistar rats showing normal features of group A (control female) and group B (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X

Plate 1.14: Photomicrograph of the section of eye architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X
Plate 1.15: Photomicrograph of the section of skin architecture of Wistar rats showing normal features of group A (control male), group B (control female), group C (high dose male treated at 1000 mg/kg b.wt. of *Boswellia serrata*) and group D (high dose female treated at 1000 mg/kg b.wt. of *Boswellia serrata*). Hematoxylin-eosin, 100X