

**Bioactivities of natural
products and synthesized
compounds *in vivo***

Prof Dr. Mahmood Ameen Abdulla

- **Prevention of gastric ulcer**
- **Treatment of gastric ulcer**
- **Wound healing in normal rats**
- **Wound healing in diabetic rats**
- **Prevention of colorectal cancer**
- **Treatment of colorectal cancer**
- **Prevention of atherosclerosis**
- **Treatment of atherosclerosis**
- **Prevention of liver cirrhosis**
- **Treatment of liver cirrhosis**

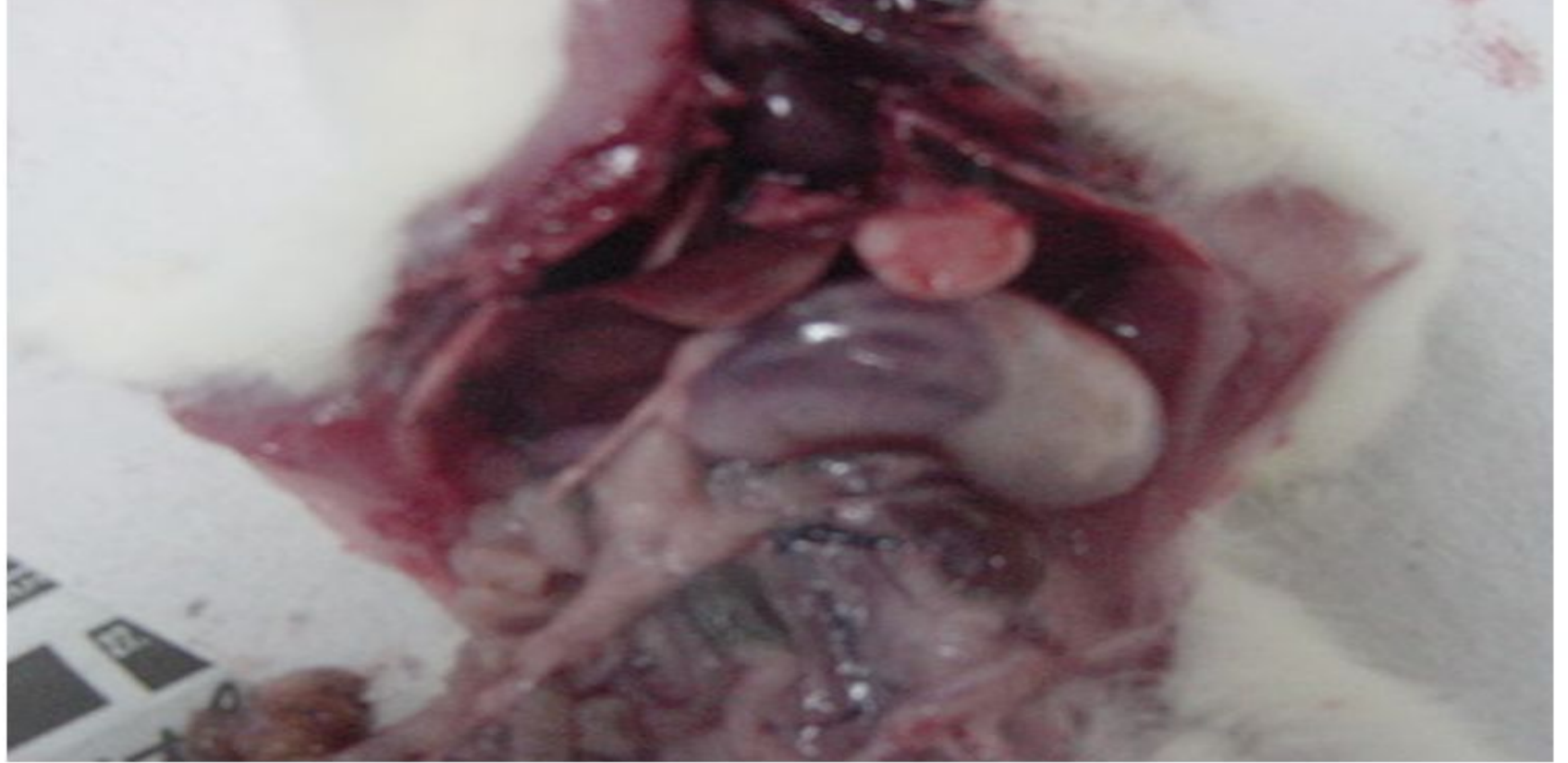
Bioactivities

- **Plant extract (crude)**
- **Plant extract (active ingredient)**
- **Synthesized compounds**

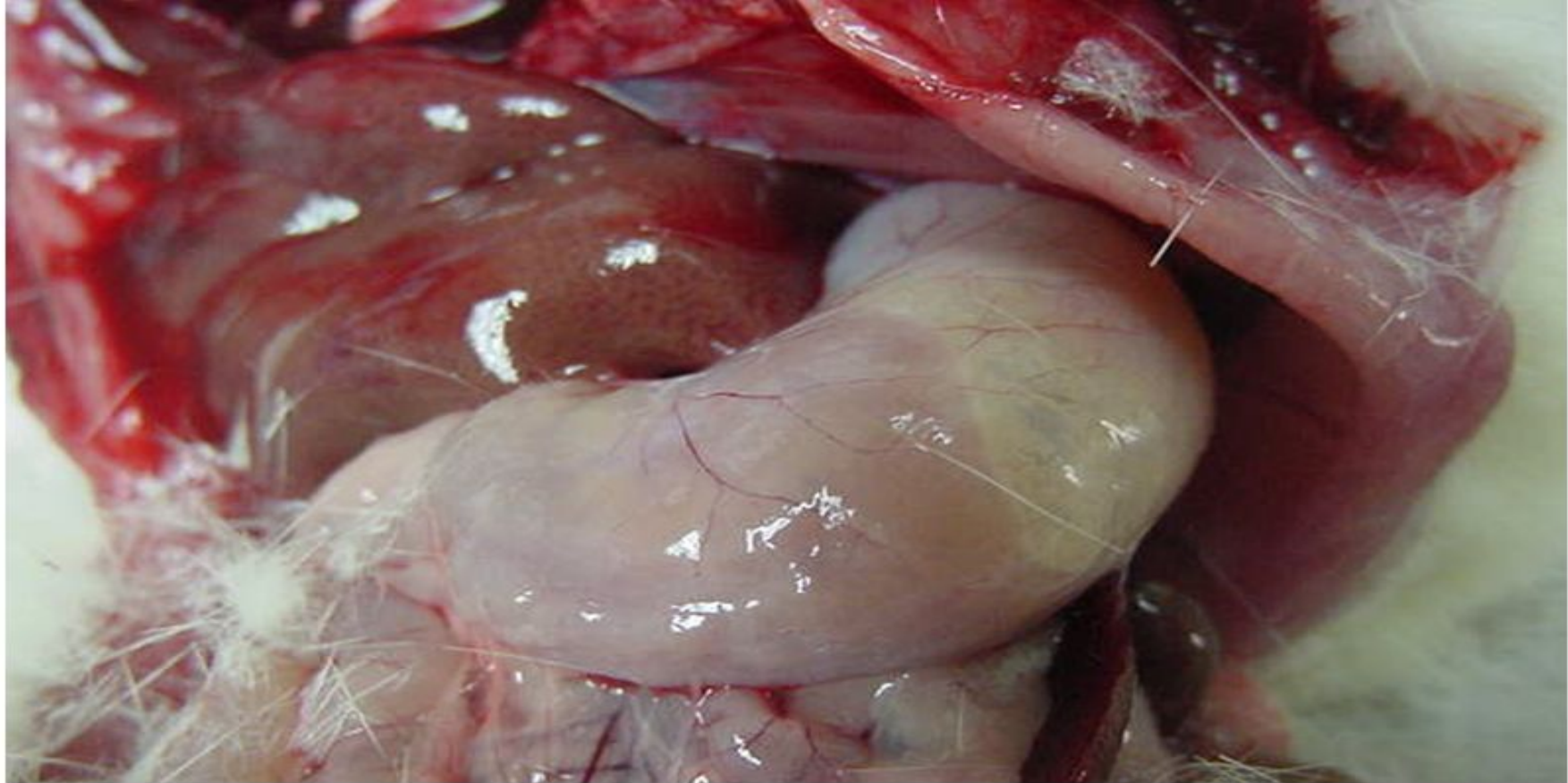
plants/compounds



Gastric ulcer-feeding



Gastric ulcer(ulcer control)



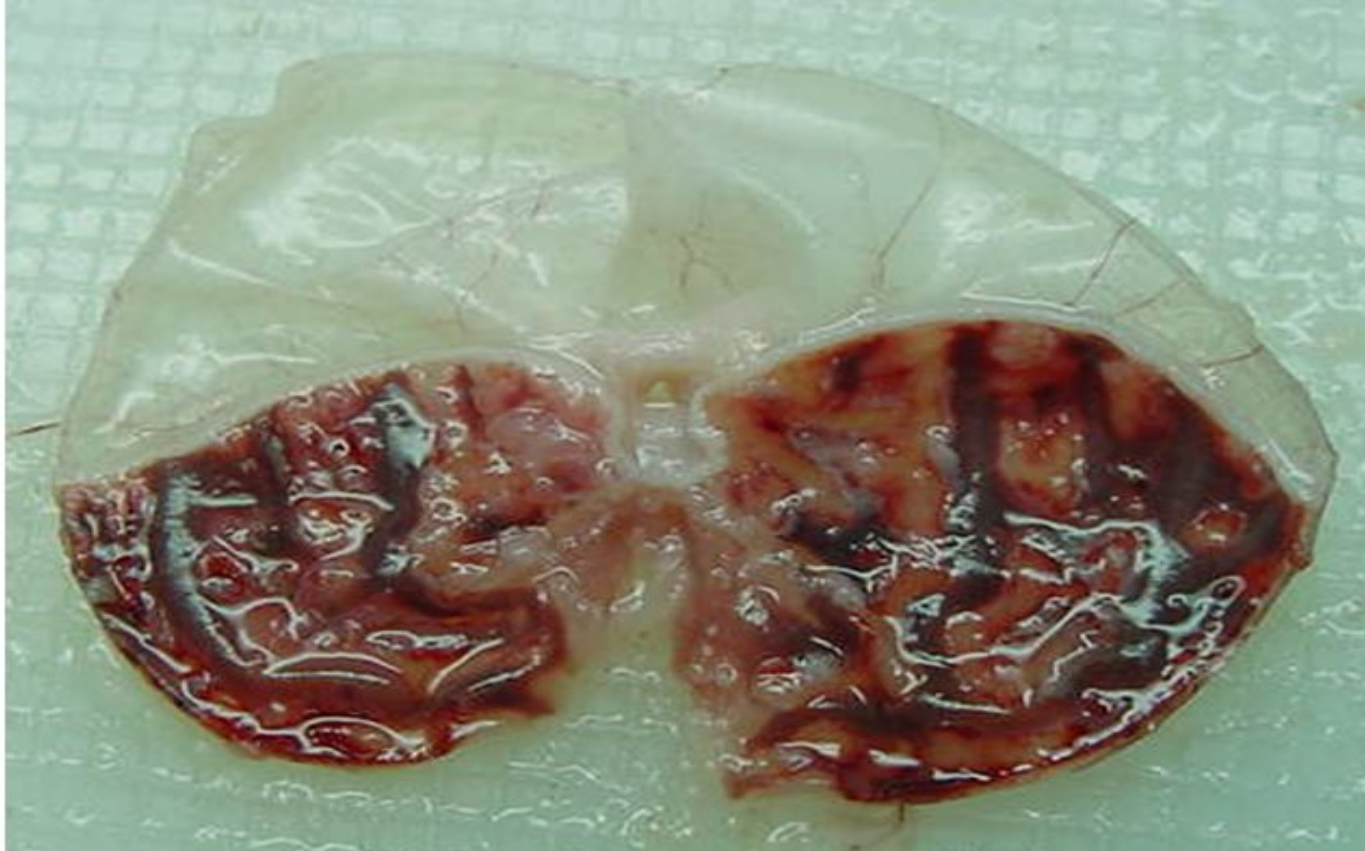
Gastric ulcer-extract/compound



Gastric ulcer- ulcer control



Gastric ulcer-Plant/compound



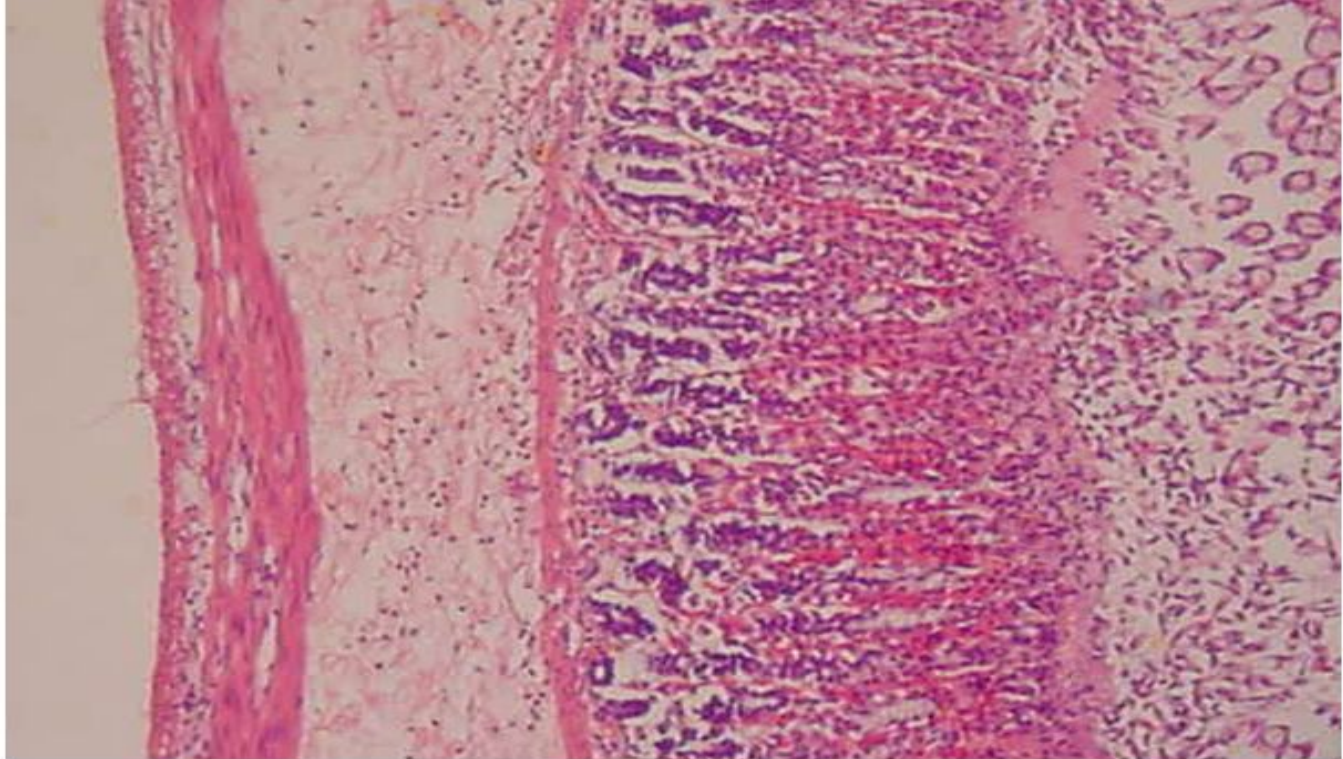
Gross Evaluation (Ulcer control)

Severe lesion of the corpus caused by absolute ethanol



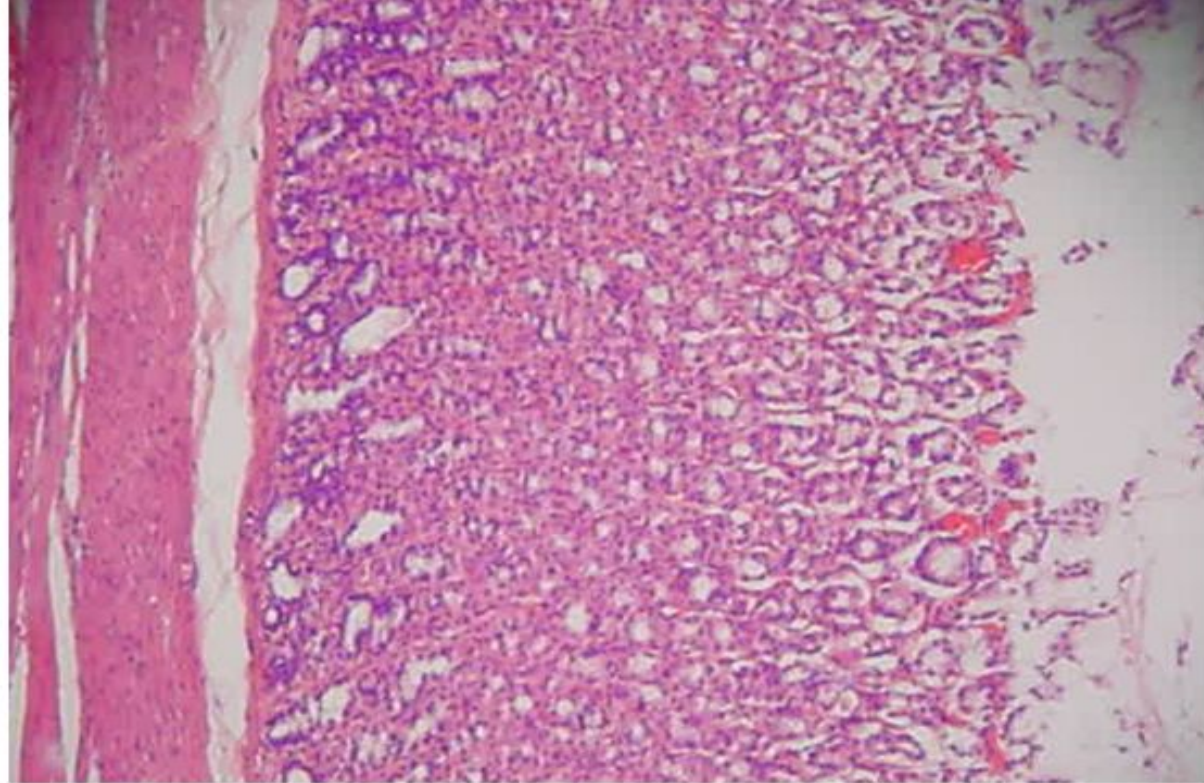
Gross Evaluation (extract/compound)

inhibition of gastric lesion formation



Histological Evaluation (Ulcer control)
(H&E stain, 20x)

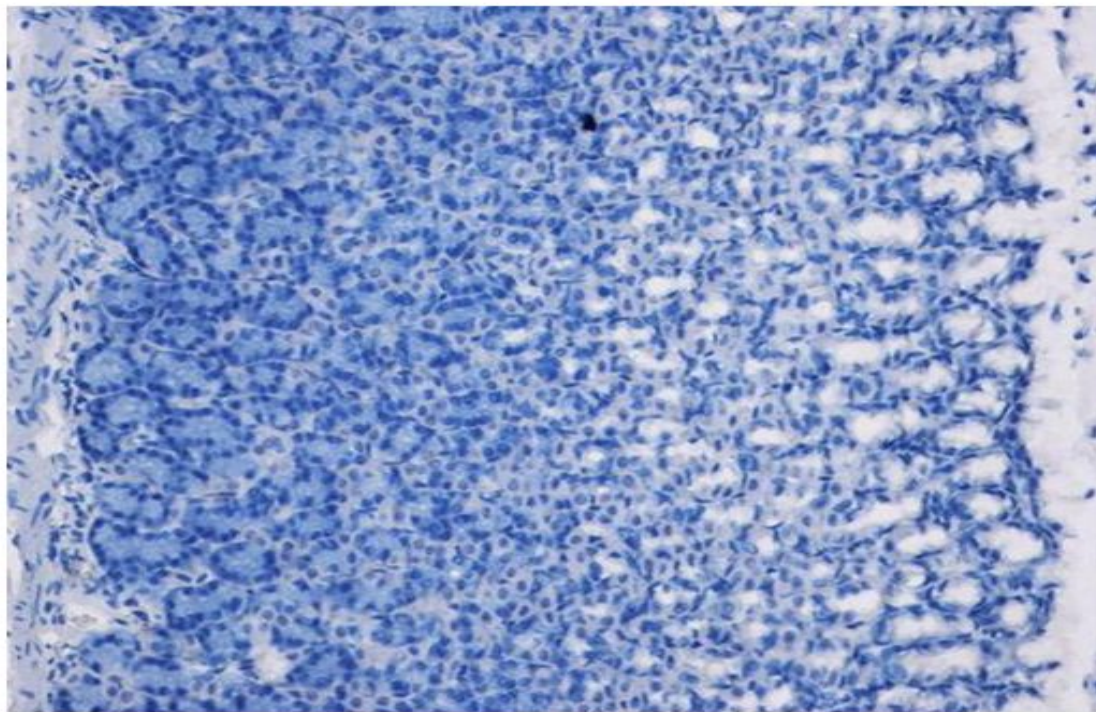
Severe disruption of the surface epithelium
Extensive oedema of the submucosa and leucocyte infiltration.



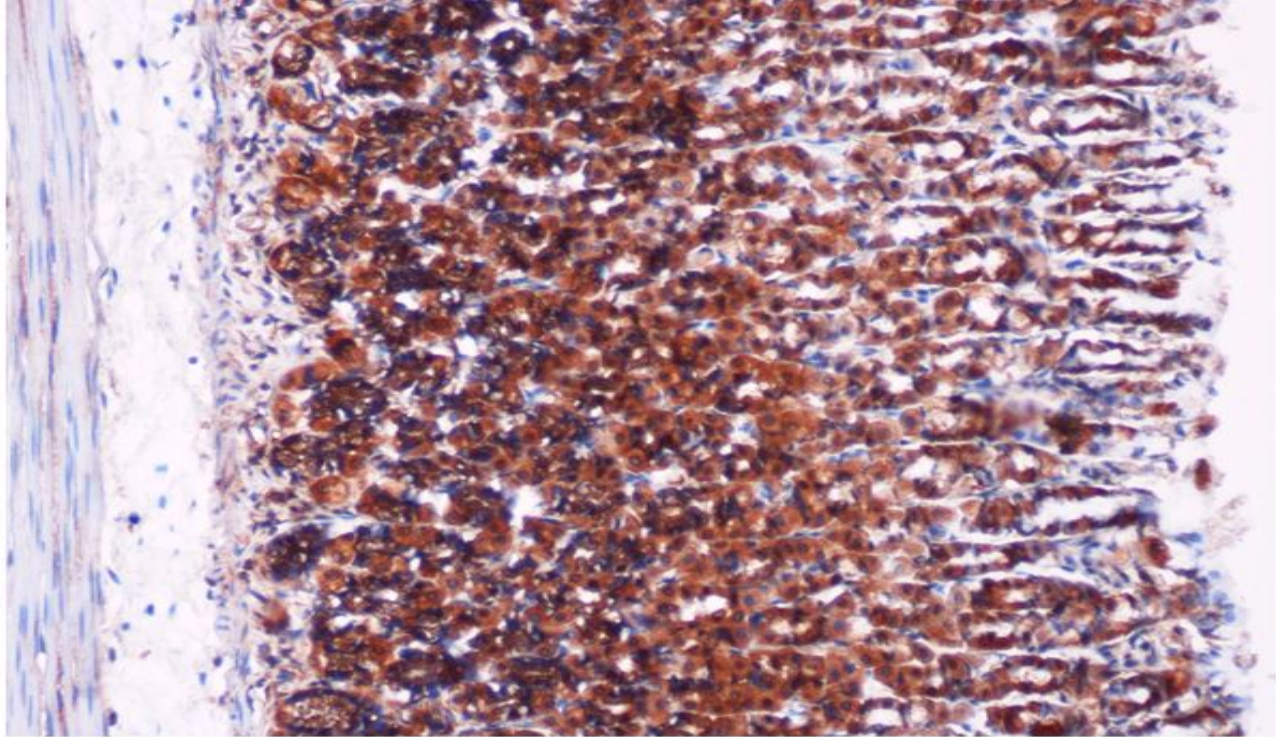
**Histological Evaluation (extract/compound,
H&E stain, 20x)**

Mild disruptions of surface epithelium.

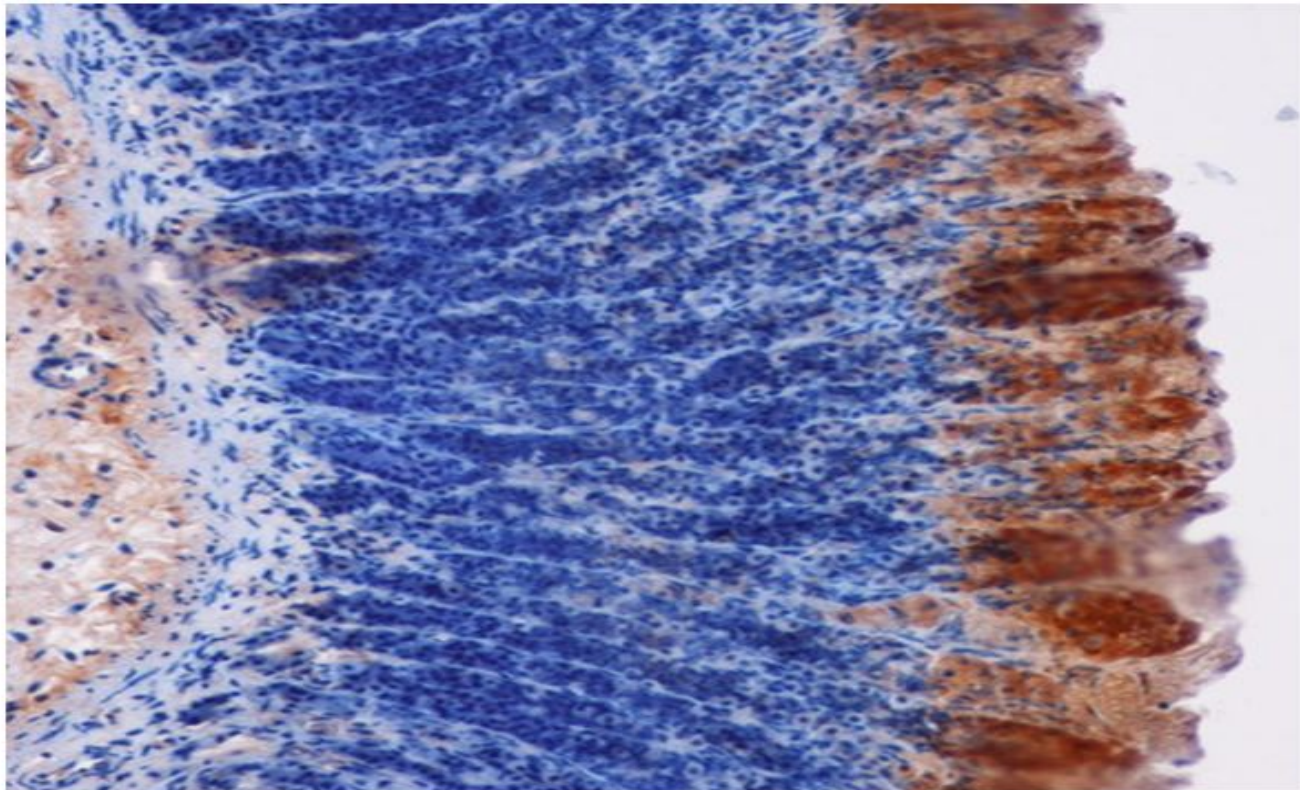
No presence of submucosal oedema and leucocyte infiltration.



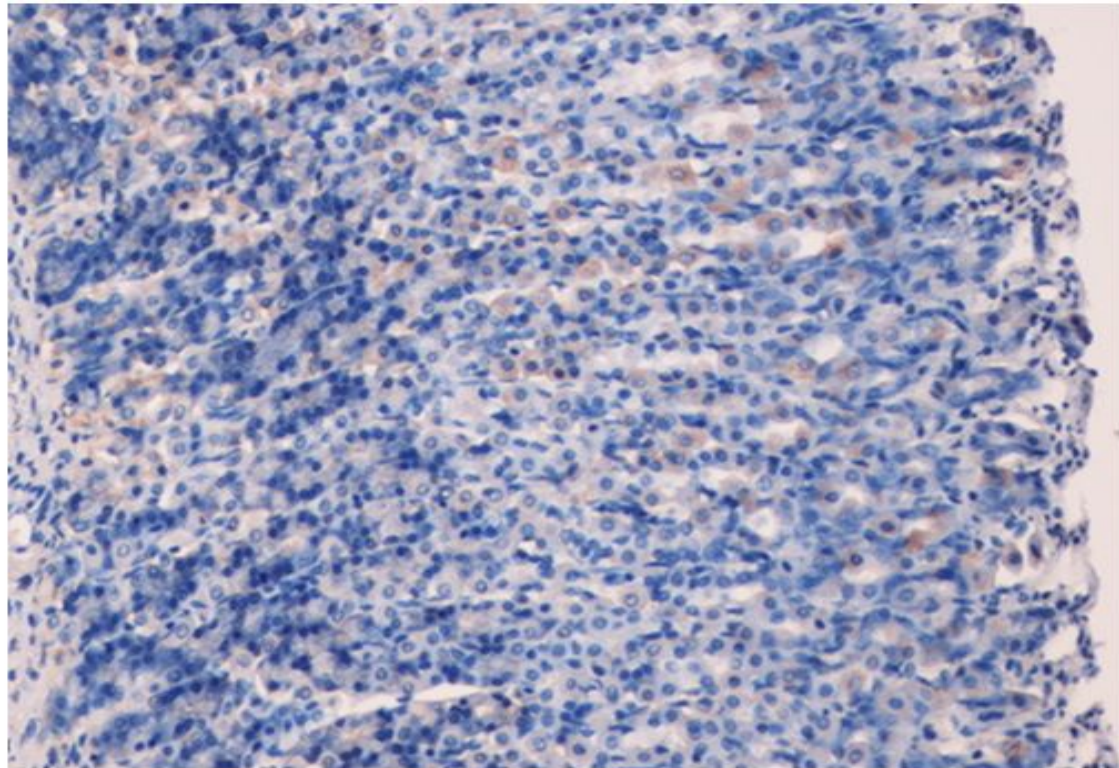
Histological Evaluation (Ulcer control)
HSP70 stain, 20x)



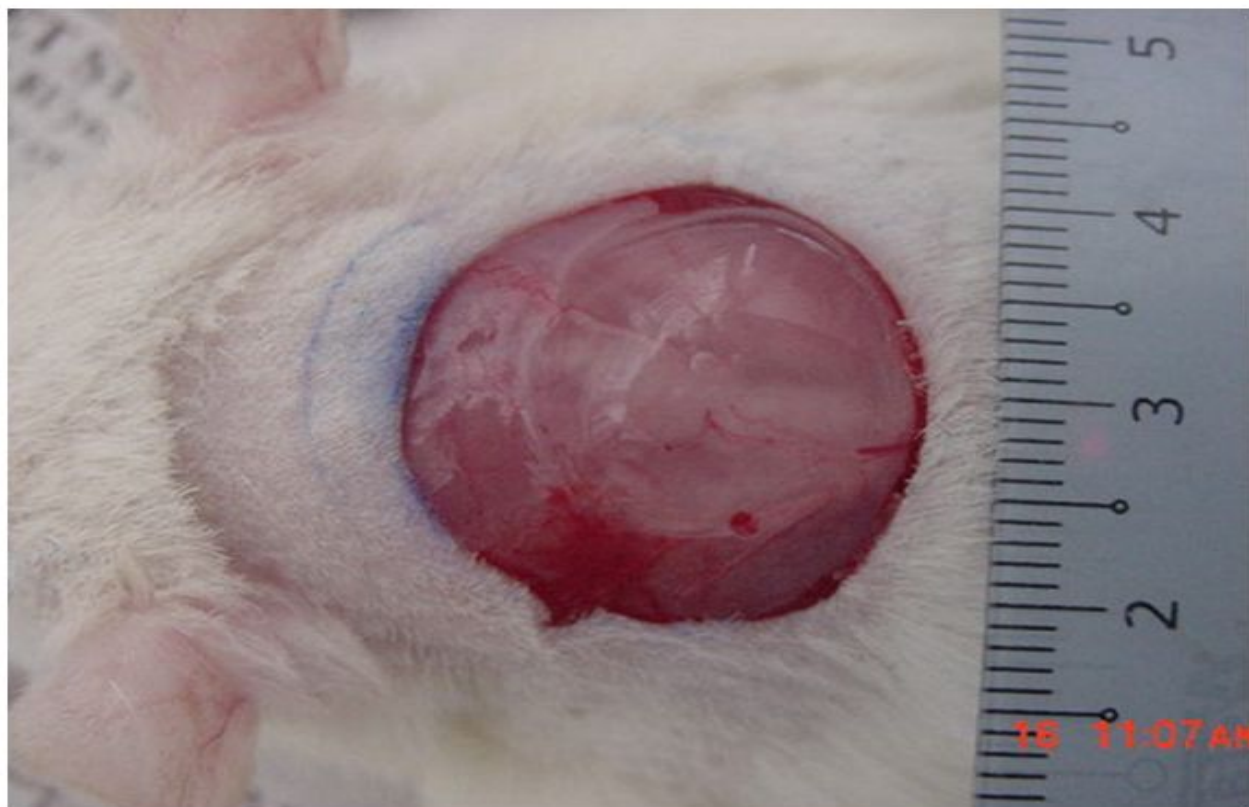
**Histological Evaluation (extract/compound,
HSP70 stain, 20x)**



Histological Evaluation (Ulcer control)
BAX stain, 20x)



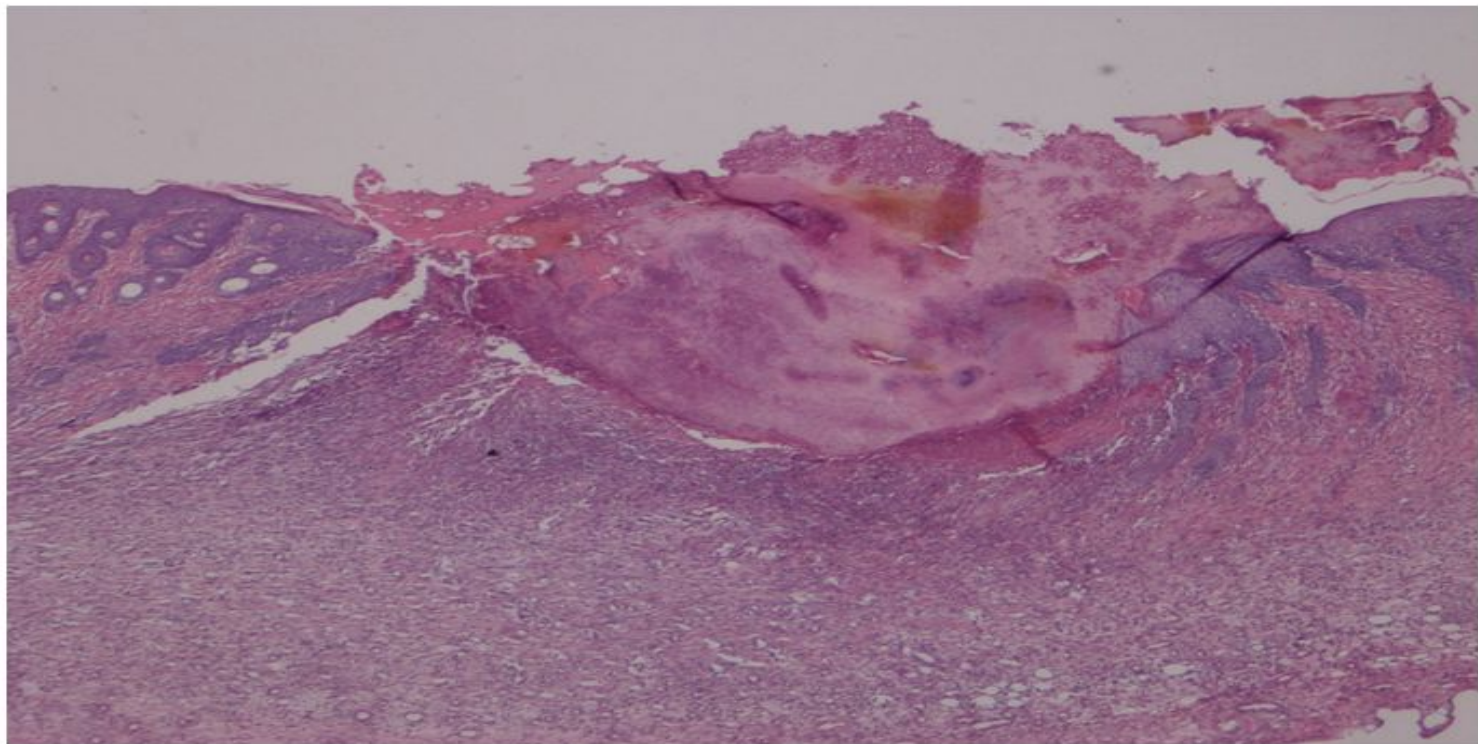
Histological Evaluation (plant/compound)
BAX stain, 20x)



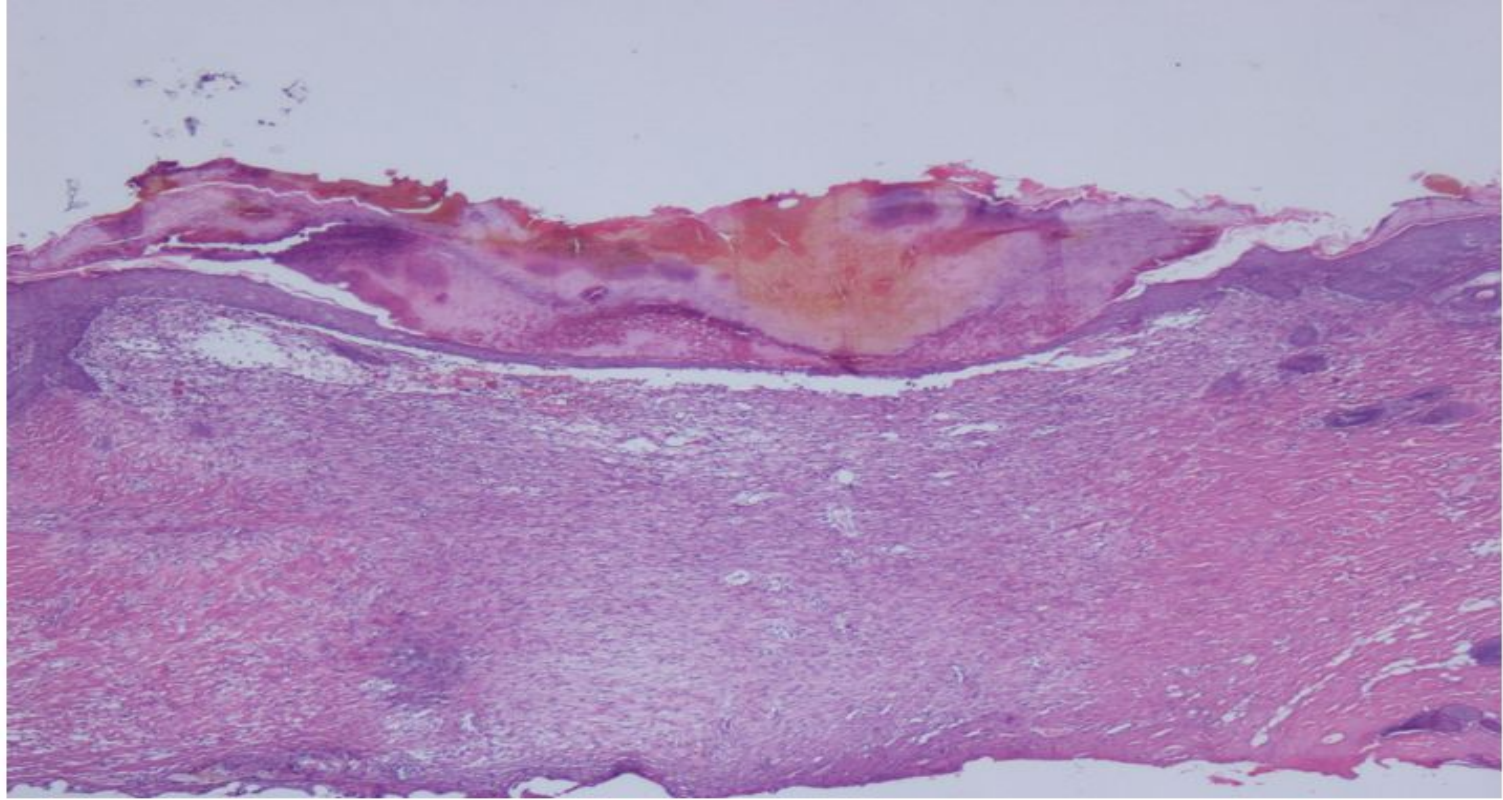
Wound 2 cm diameter (Day 0)



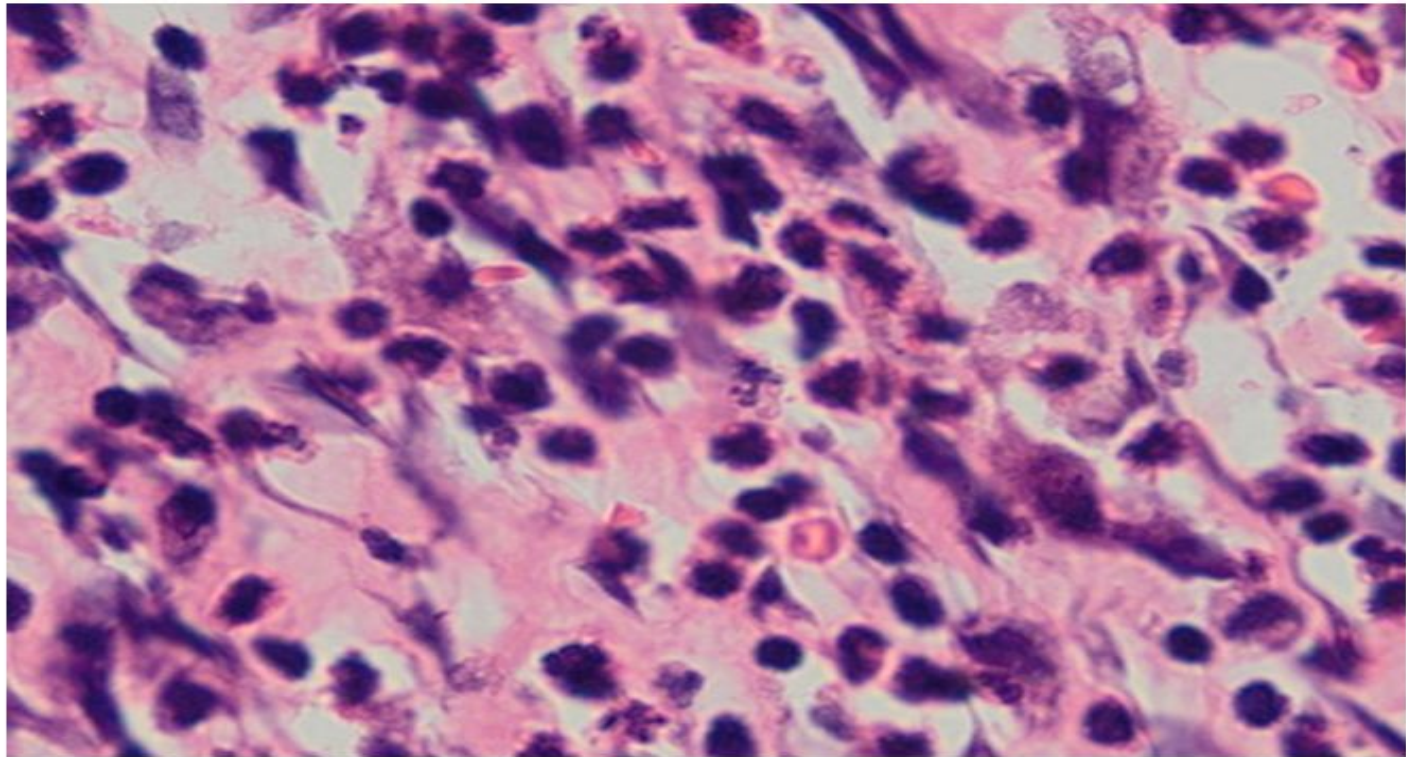
Wound healing day10
Negative control



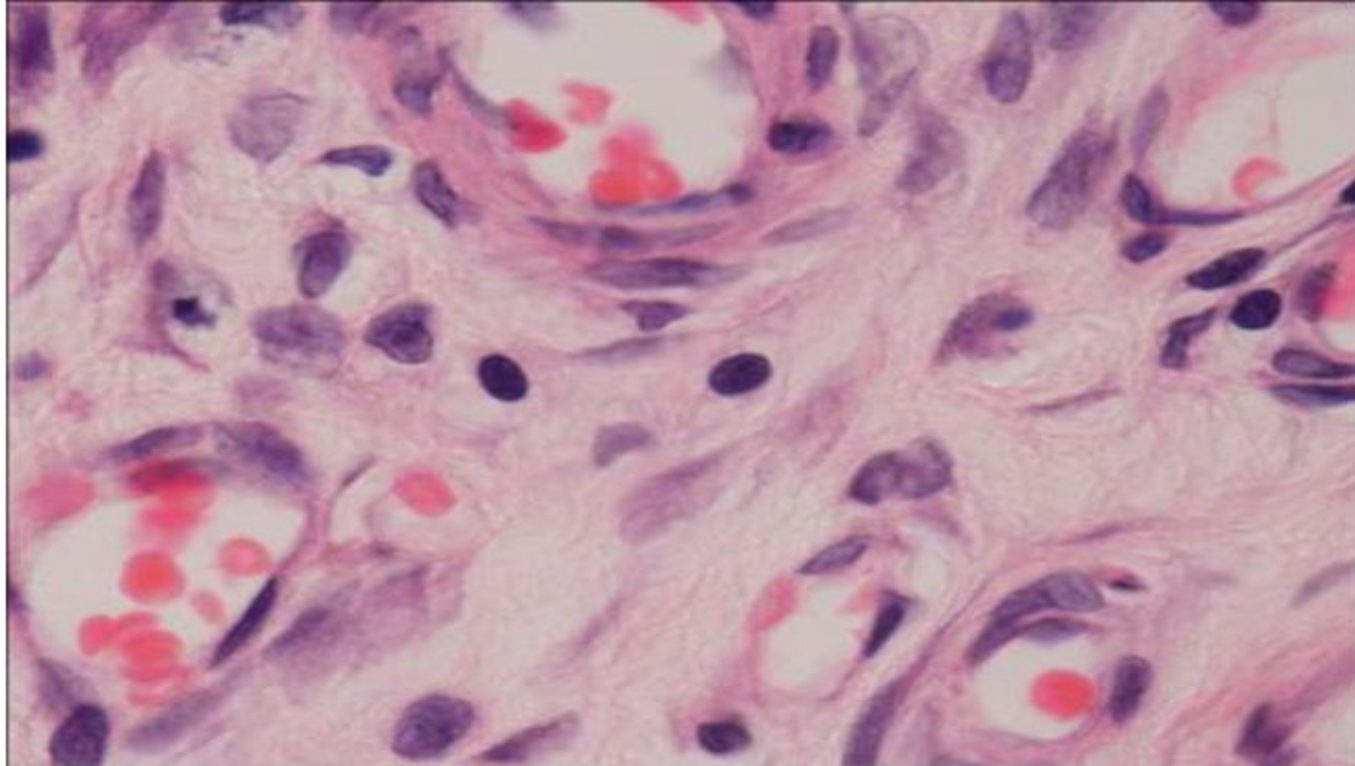
**Wound healing Negative
control Day 10 (4x)**



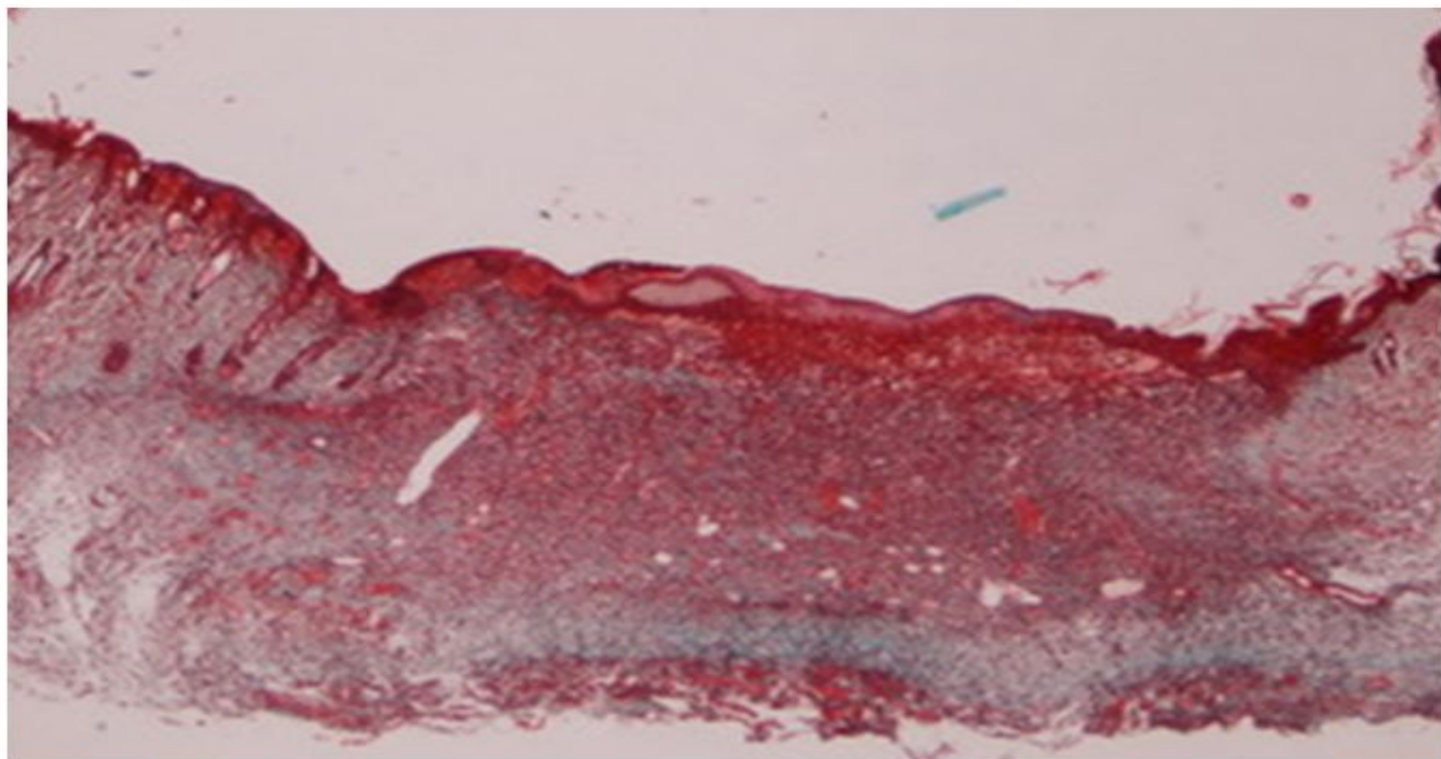
Wound healing day 10 (extract /compound) H&E stain 4x



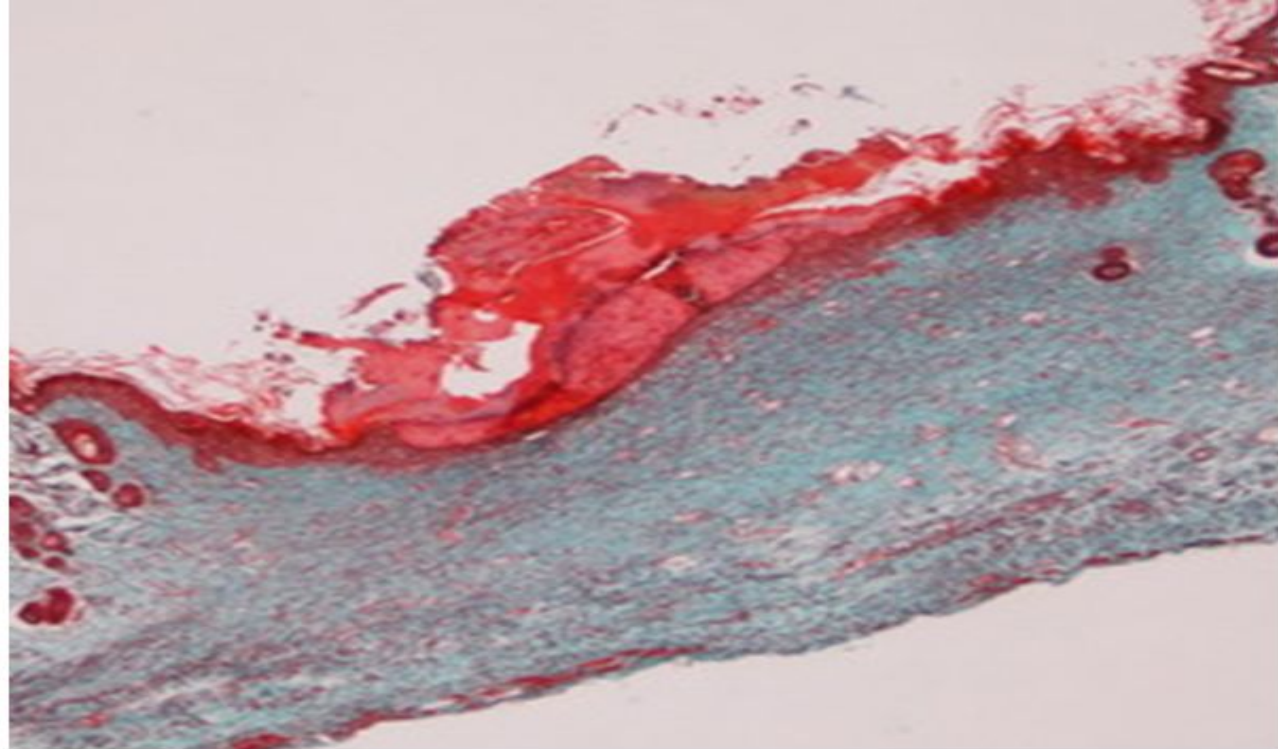
Wound healing day 10 (Negat. control) H&E stain 100x



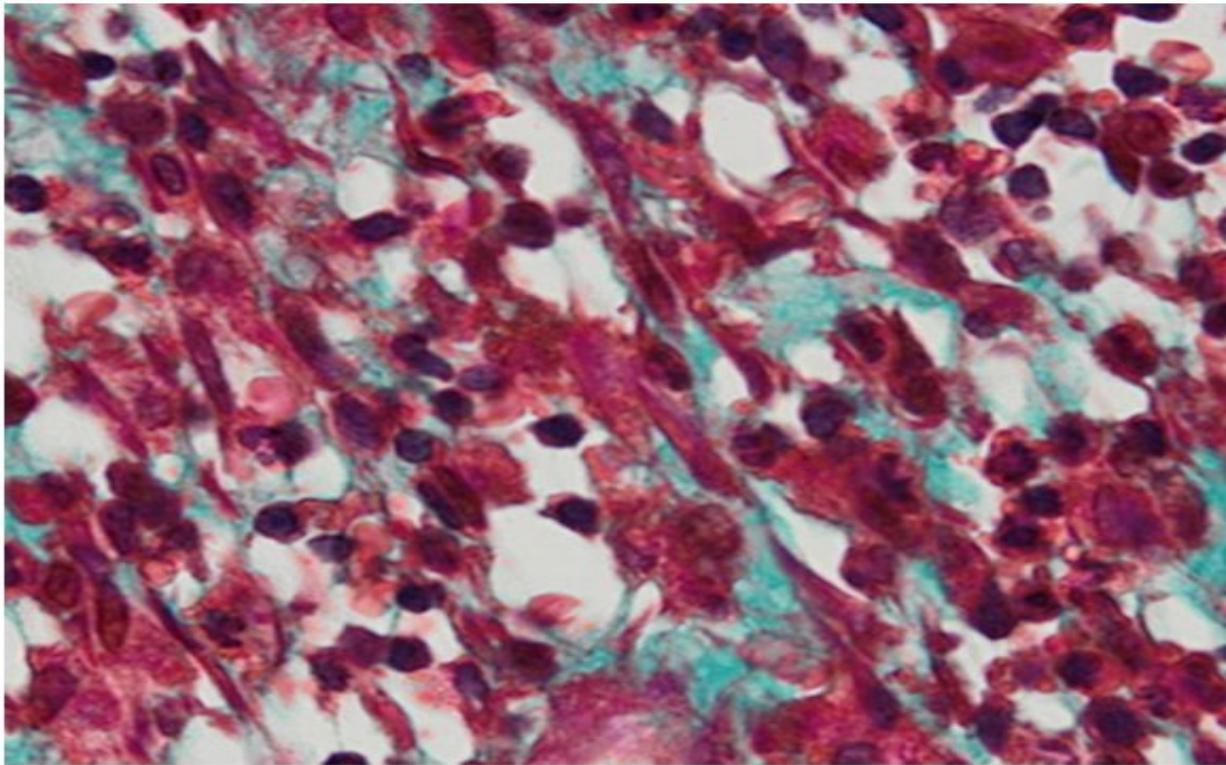
Wound healing day 10 (extract /compound) H&E stain 100x



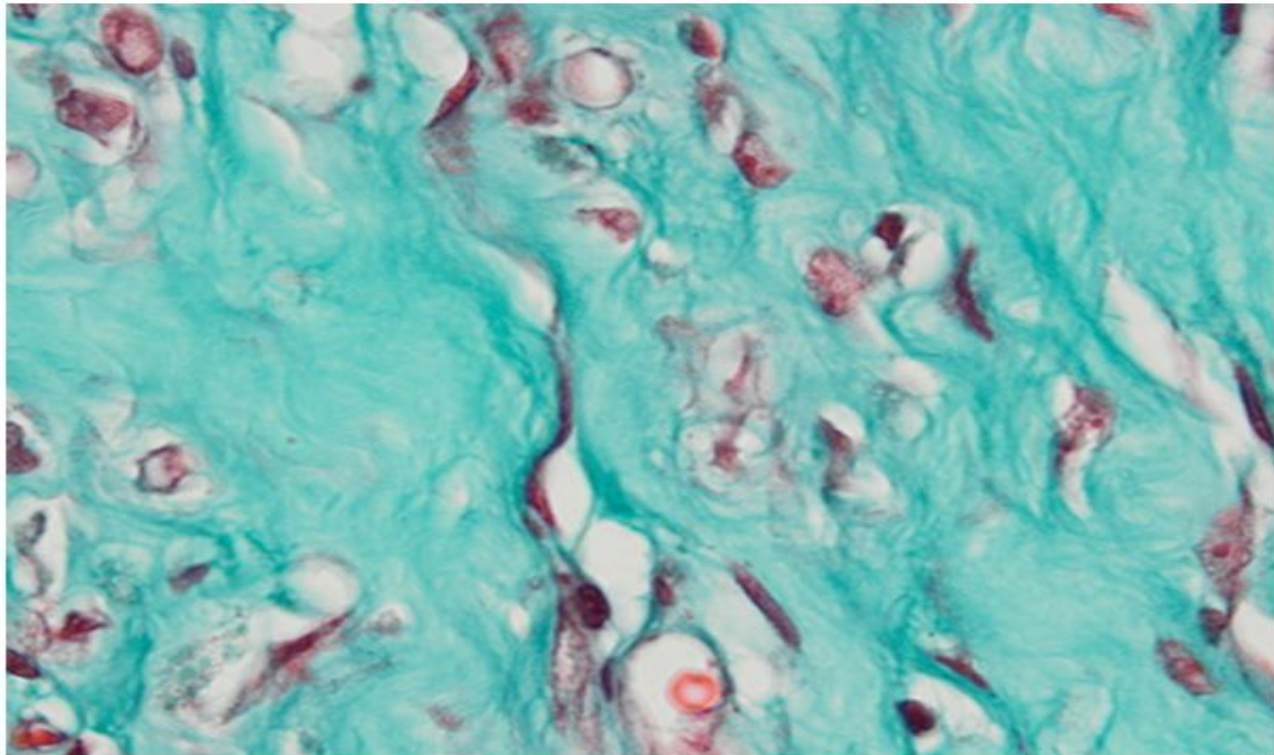
Wound healing day 10 (Negat. control) M.T stain 2x



**Wound healing day 10 extract
/compound (M.T stain 2x)**



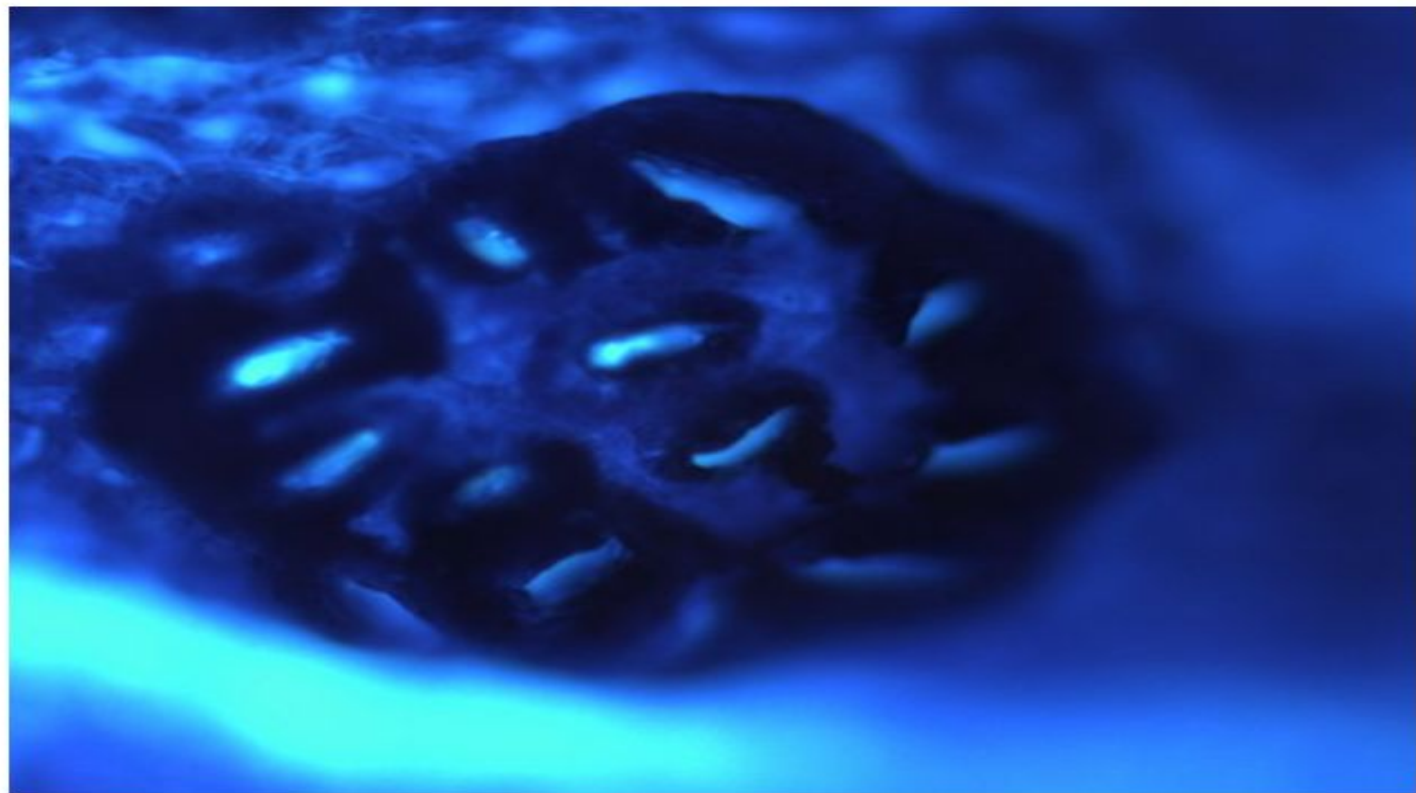
Wound healing day 10 (Negat. control) (M.T stain 100x)



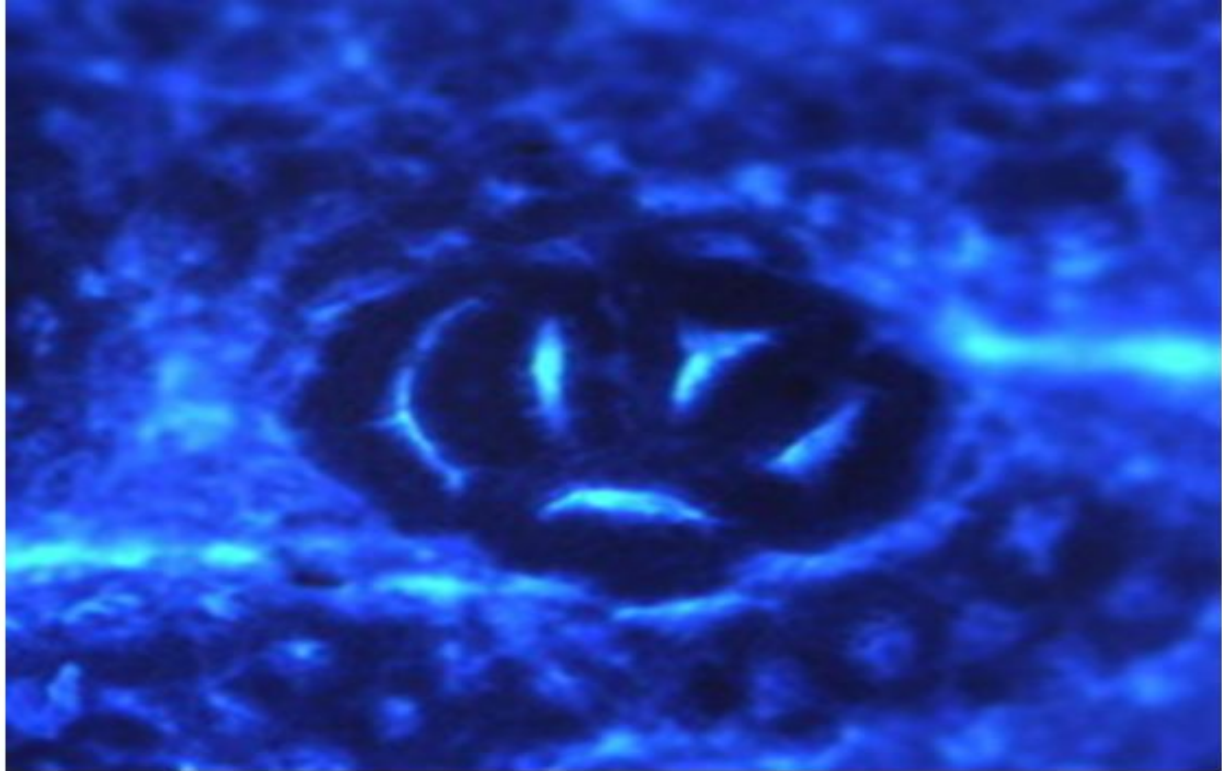
**Wound healing day 10 extract
/compound (M.T stain 100x)**



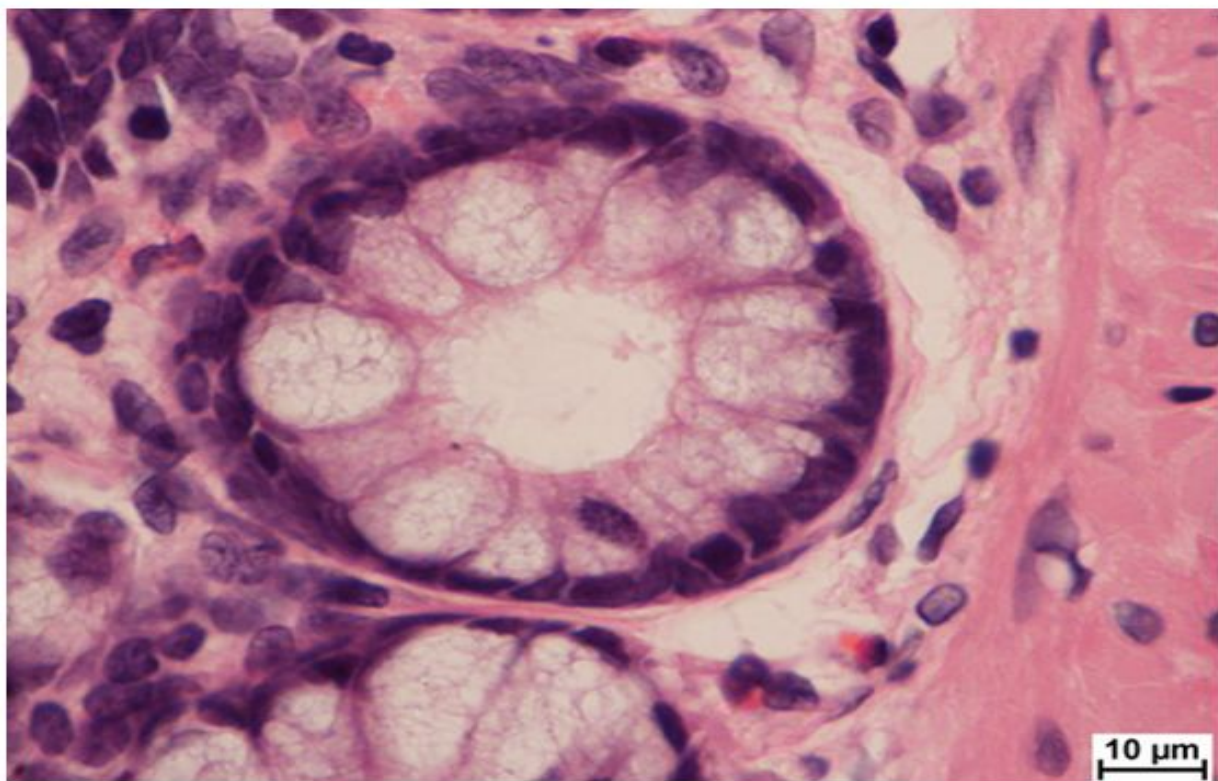
Normal colon mucosa



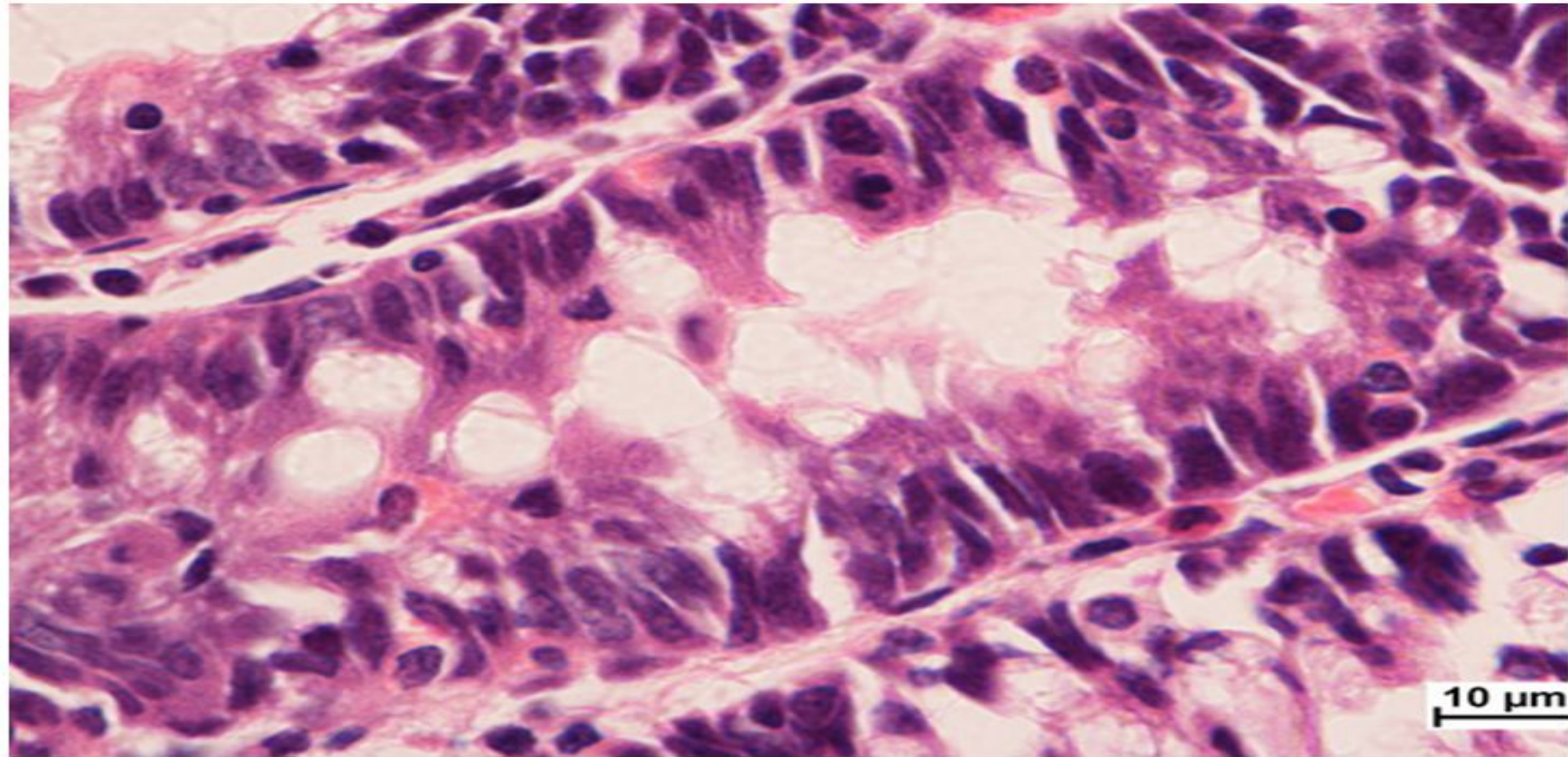
ACF (AOM + vehicle)



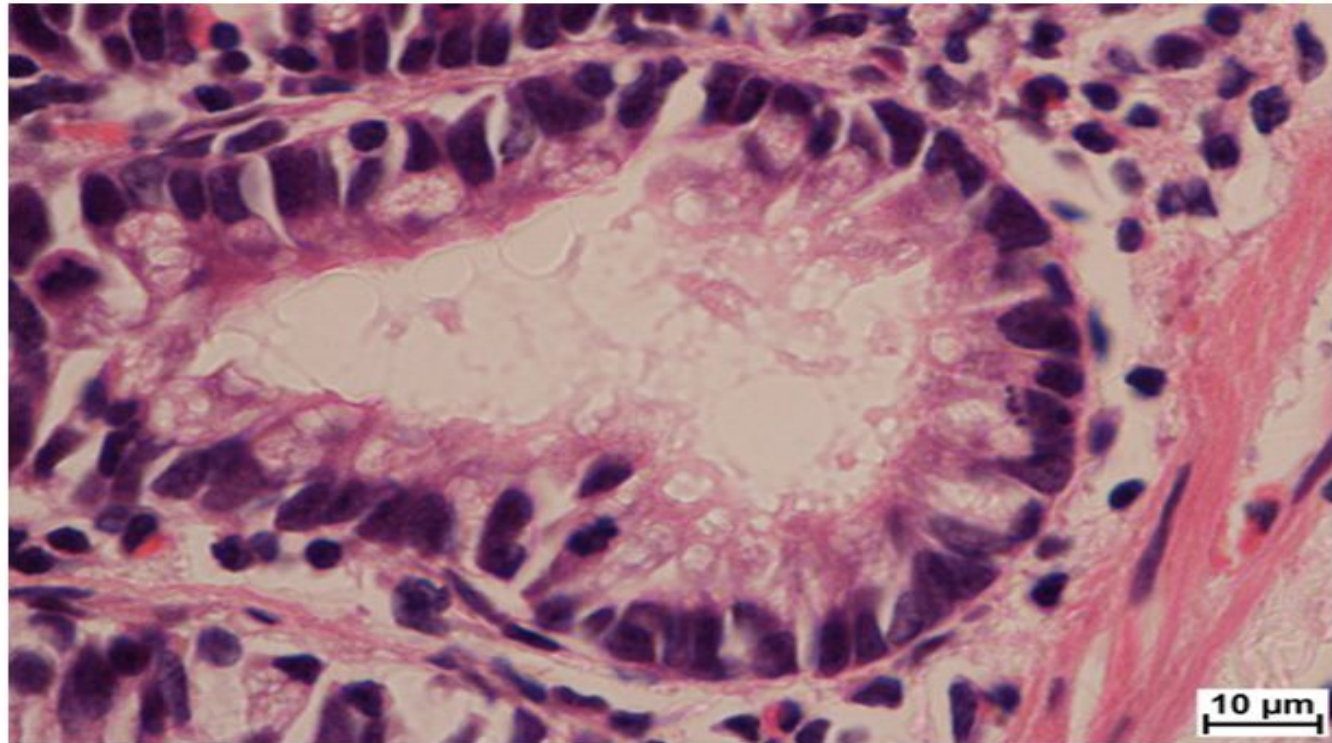
ACF (AOM + extract/ compound)



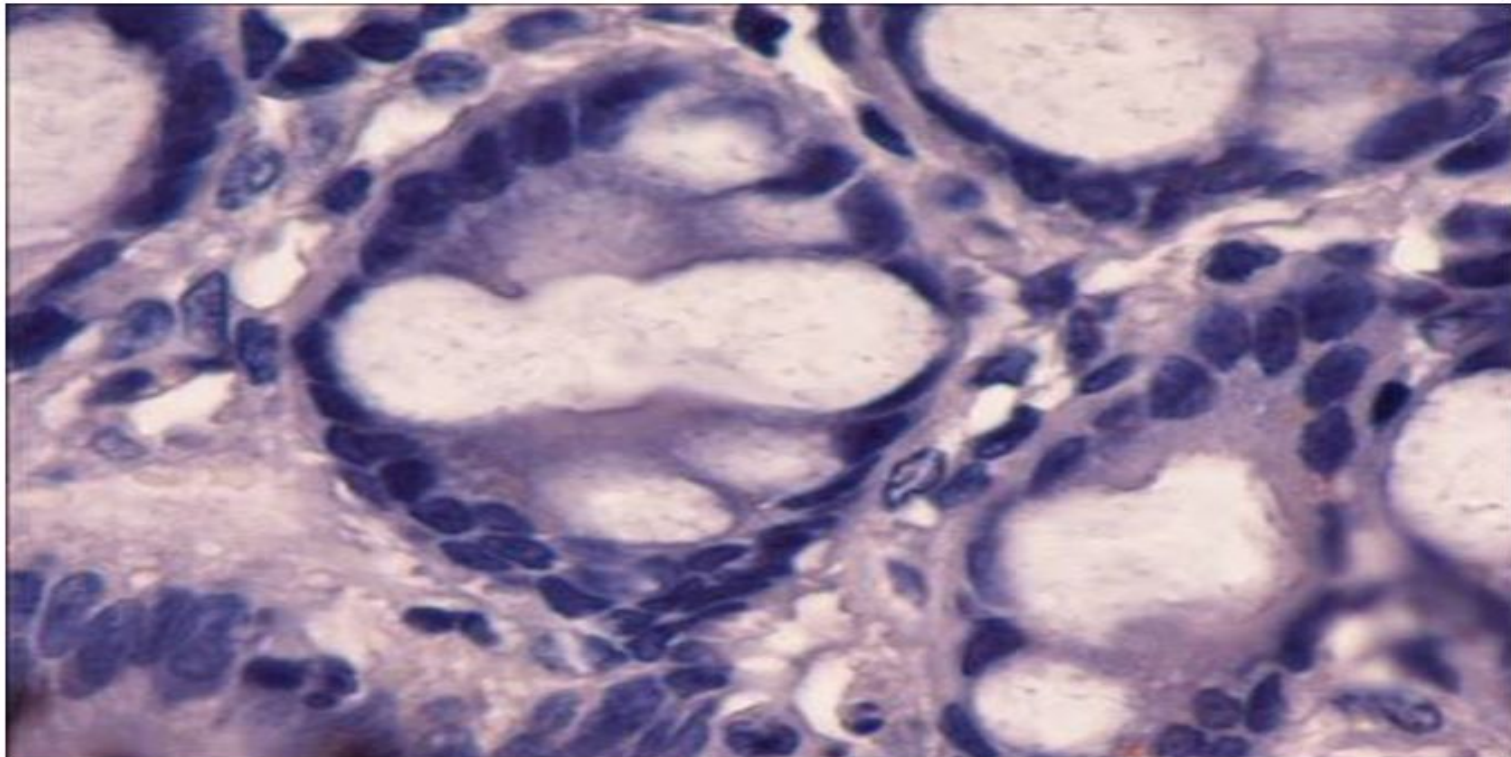
Normal colon (H&E stain 100x)



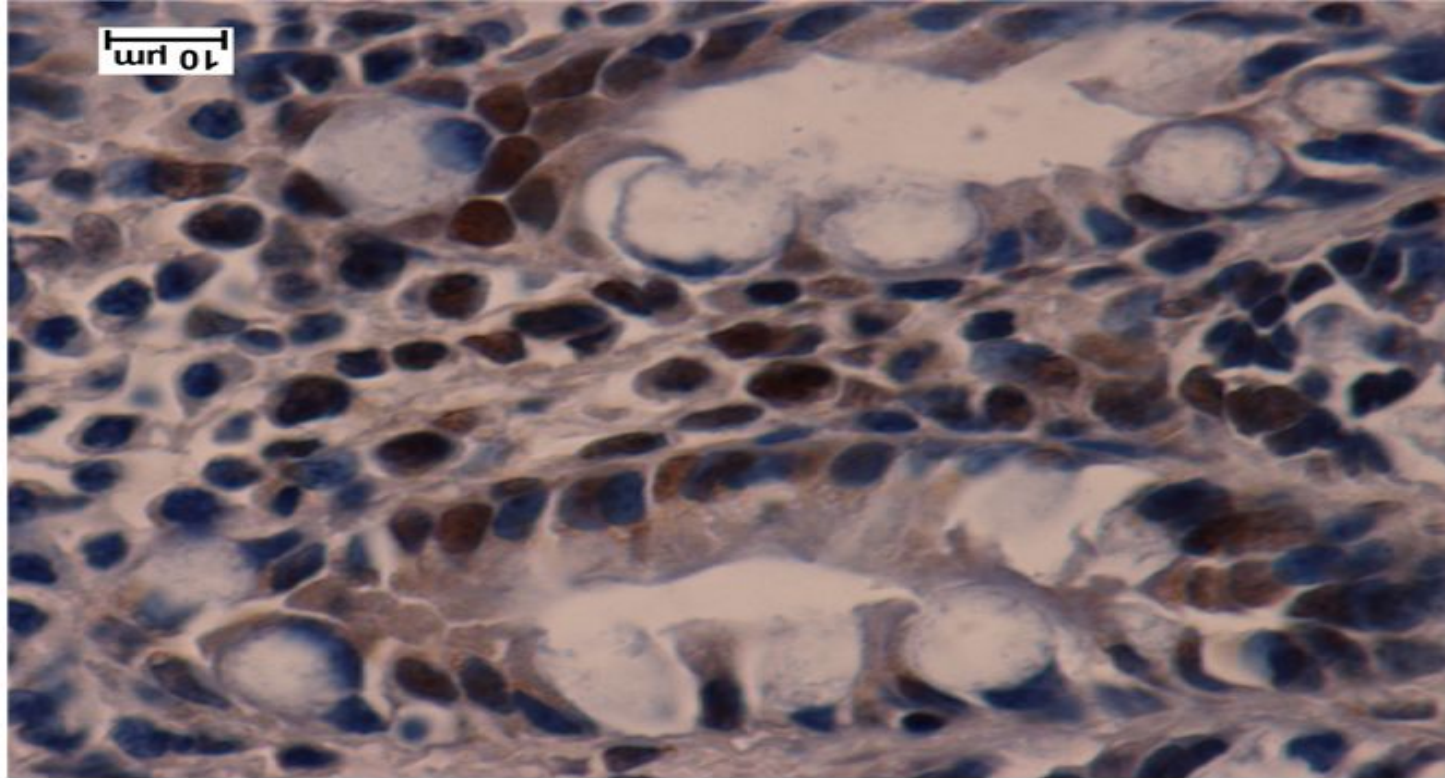
ACF (AOM + vehicle)
(H&E stain 100x)



**Histology of ACF in extract/
compound (H&E stain 100x)**



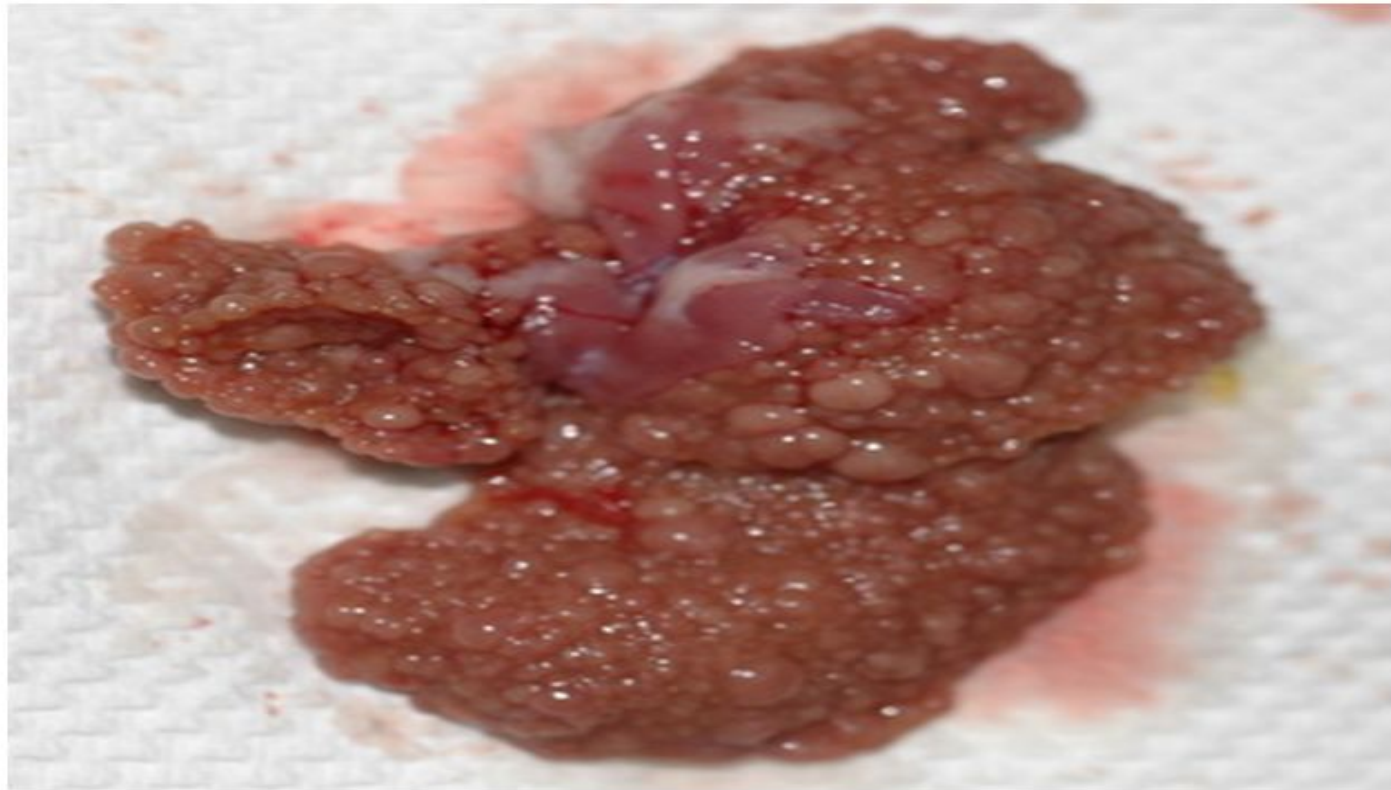
**Histology of Normal colon
(PCNA stain 100x)**



Histology of ACF in AOM control (PCNA stain 100x)



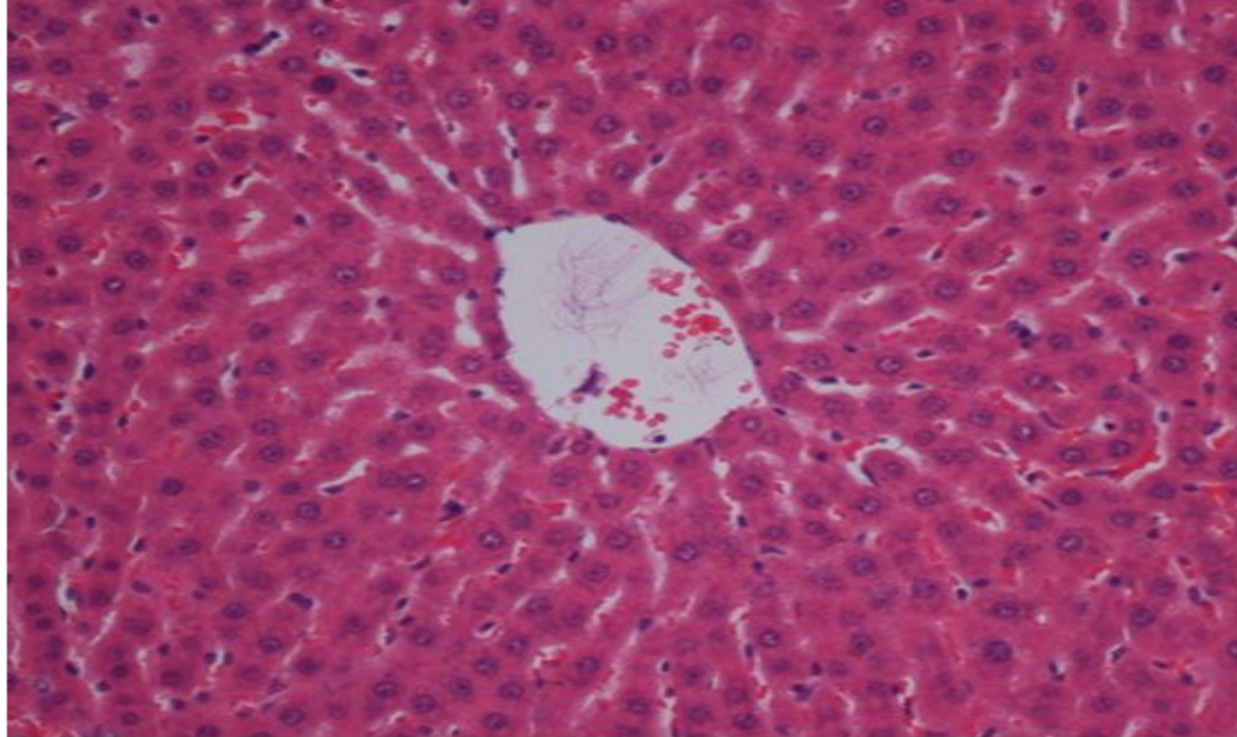
Normal liver



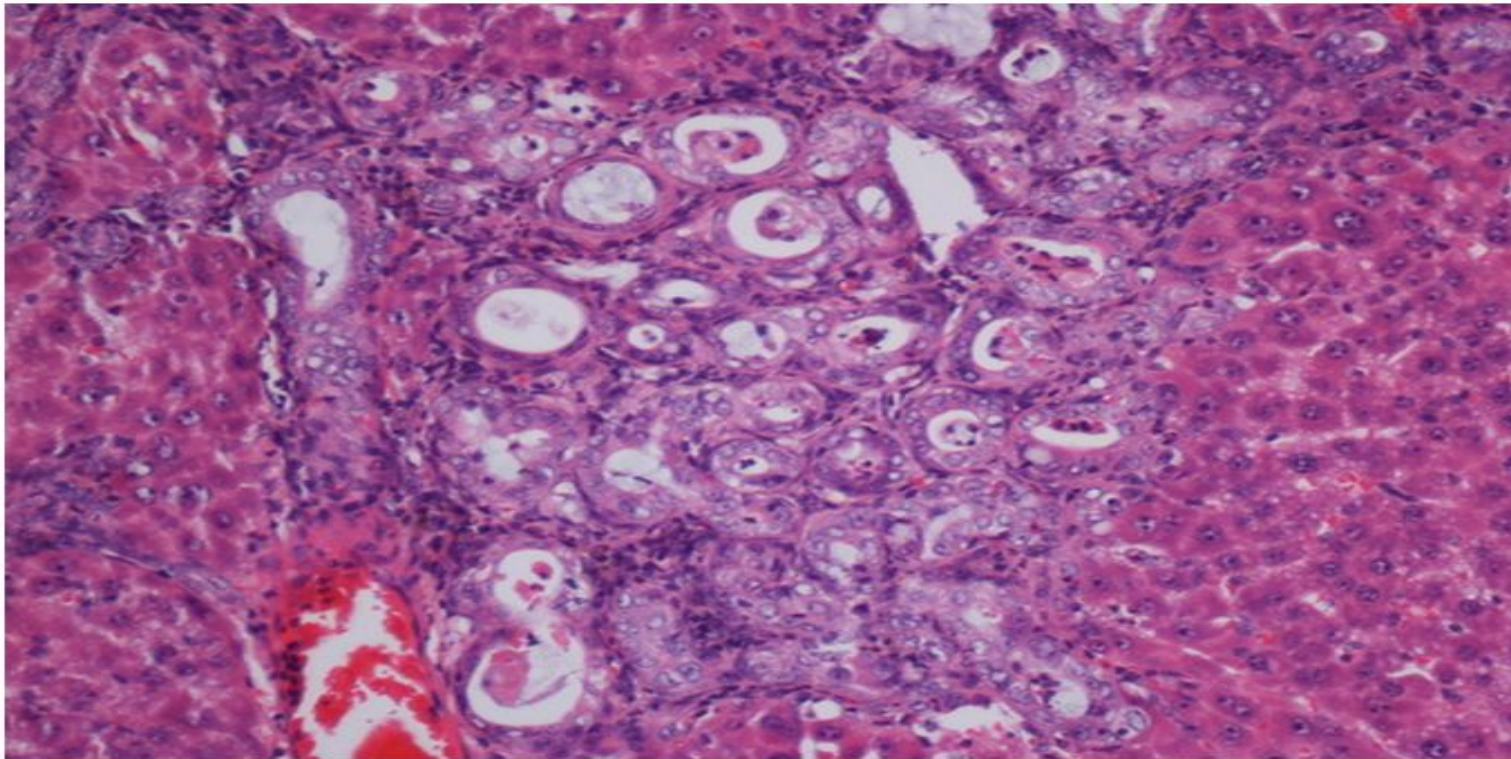
TAA + vehicle



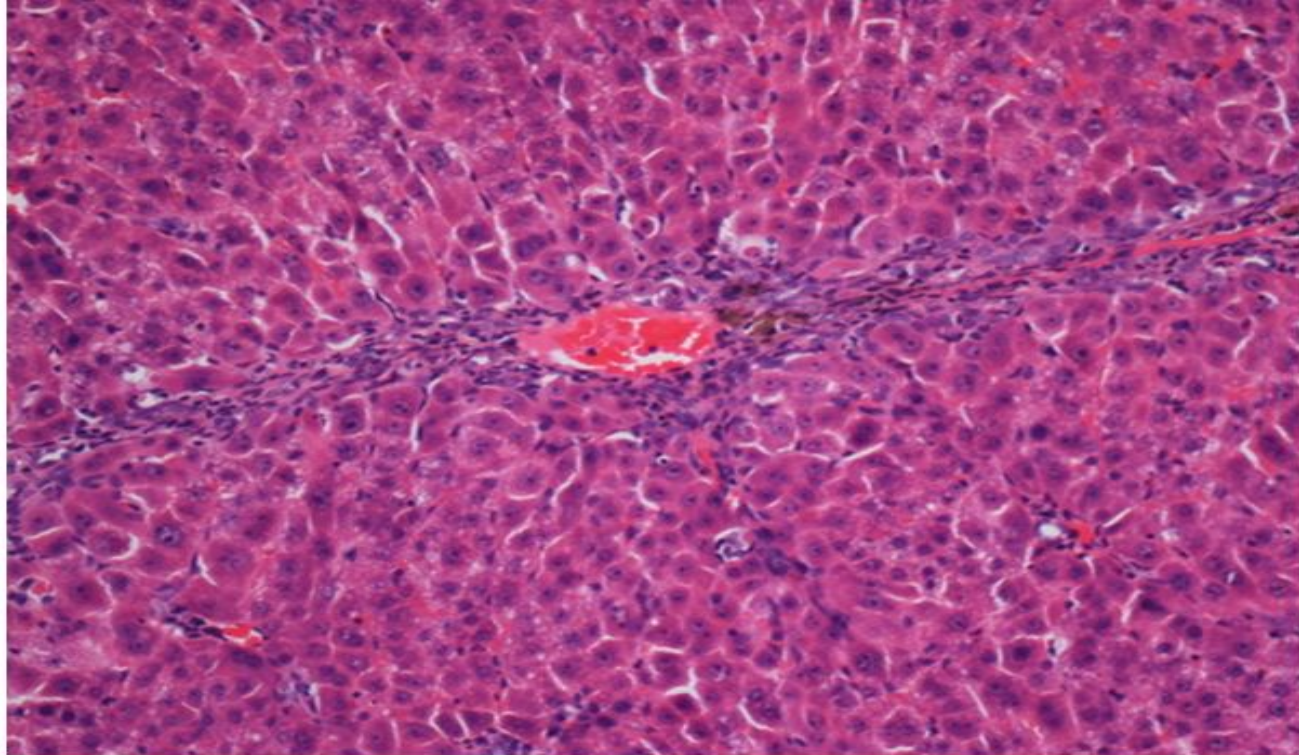
TAA + extract/compound



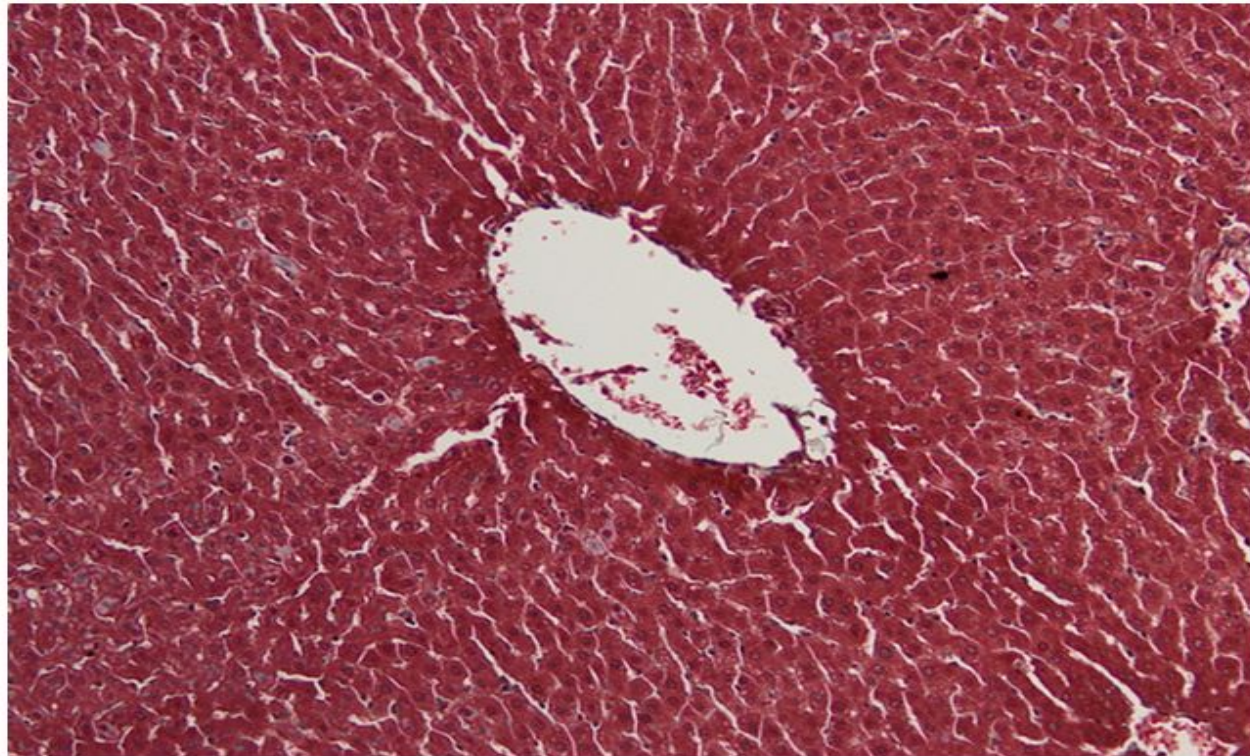
Histology of Normal liver
H&E stain (20x)



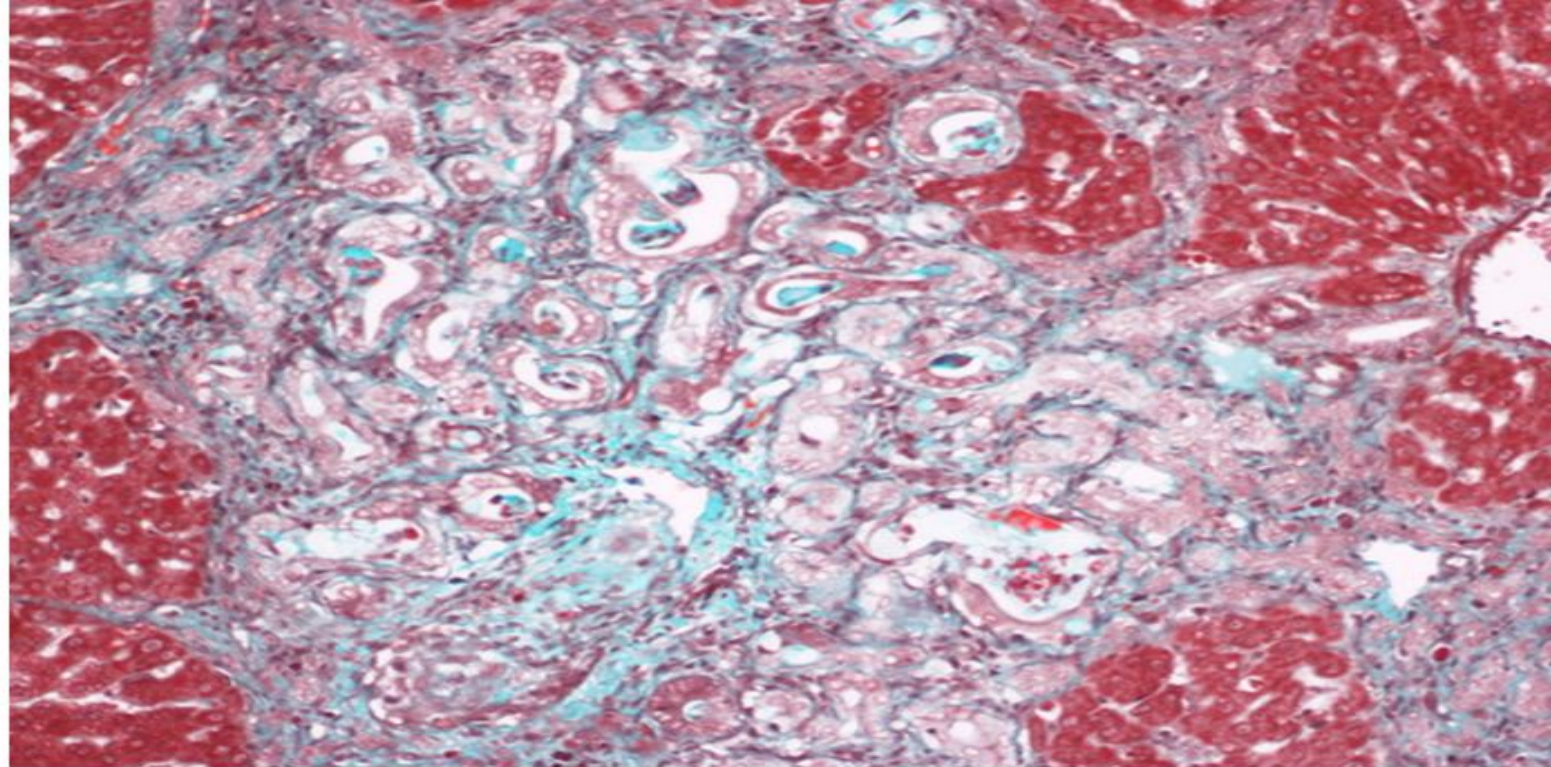
Histology of TAA + vehicle
(H&E stain 20x)



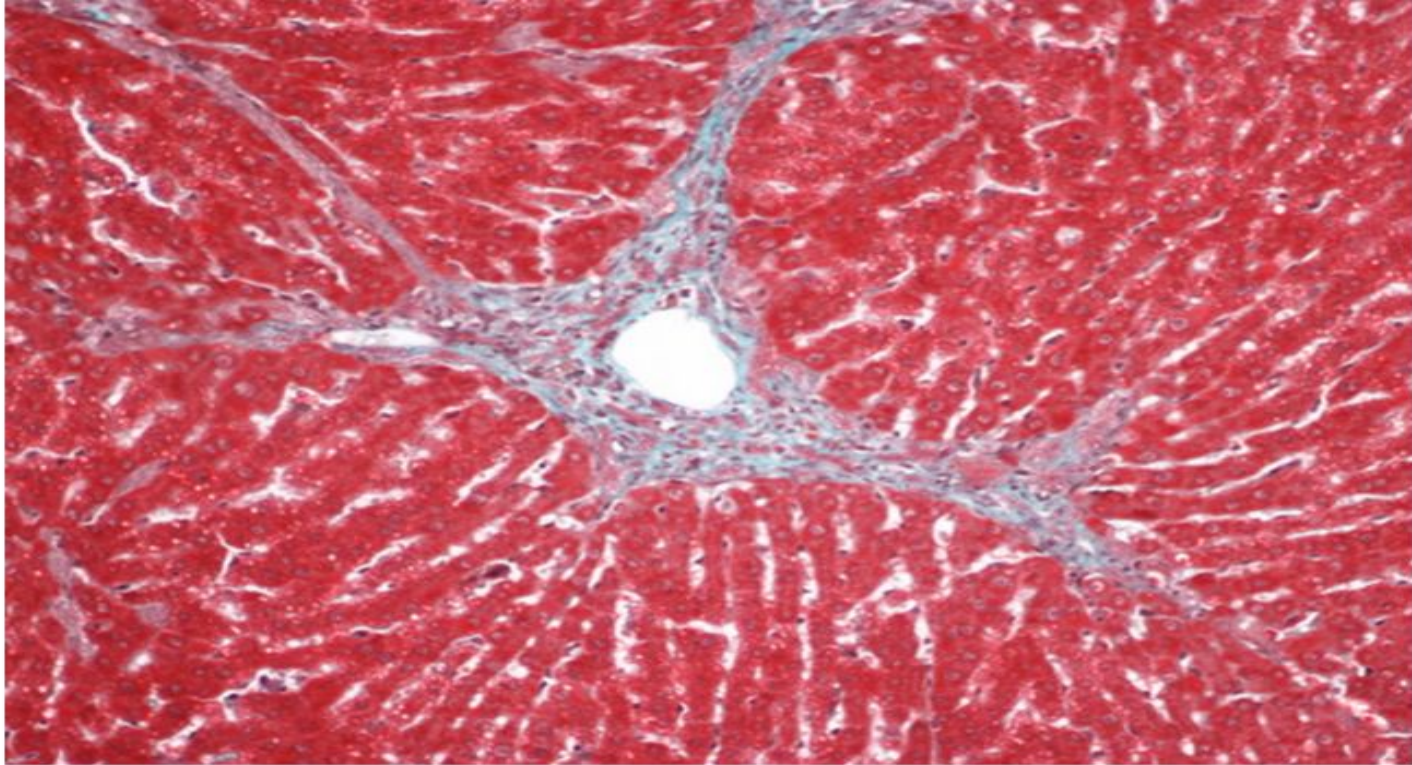
**Histology of TAA + extract/
compound (H&E stain 20x)**



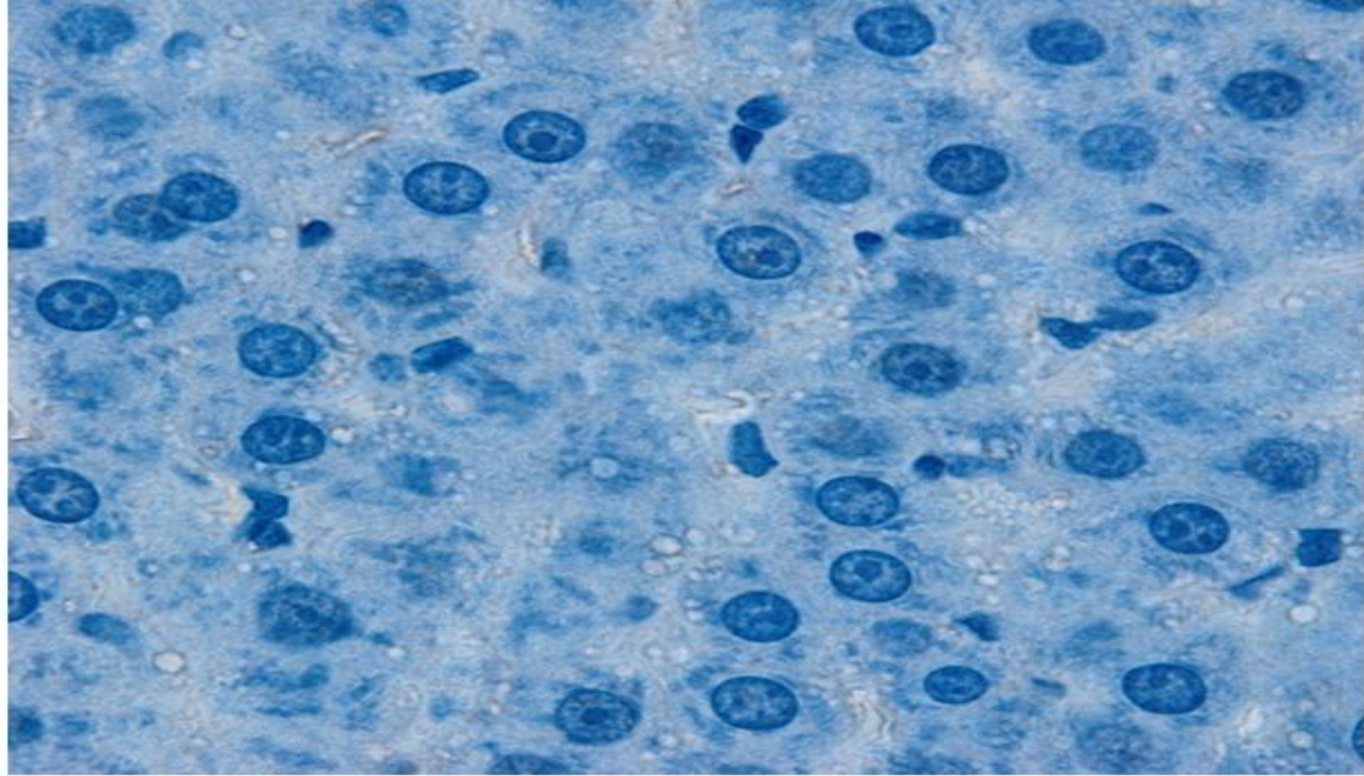
Histology of normal liver
(M.T stain 20x)



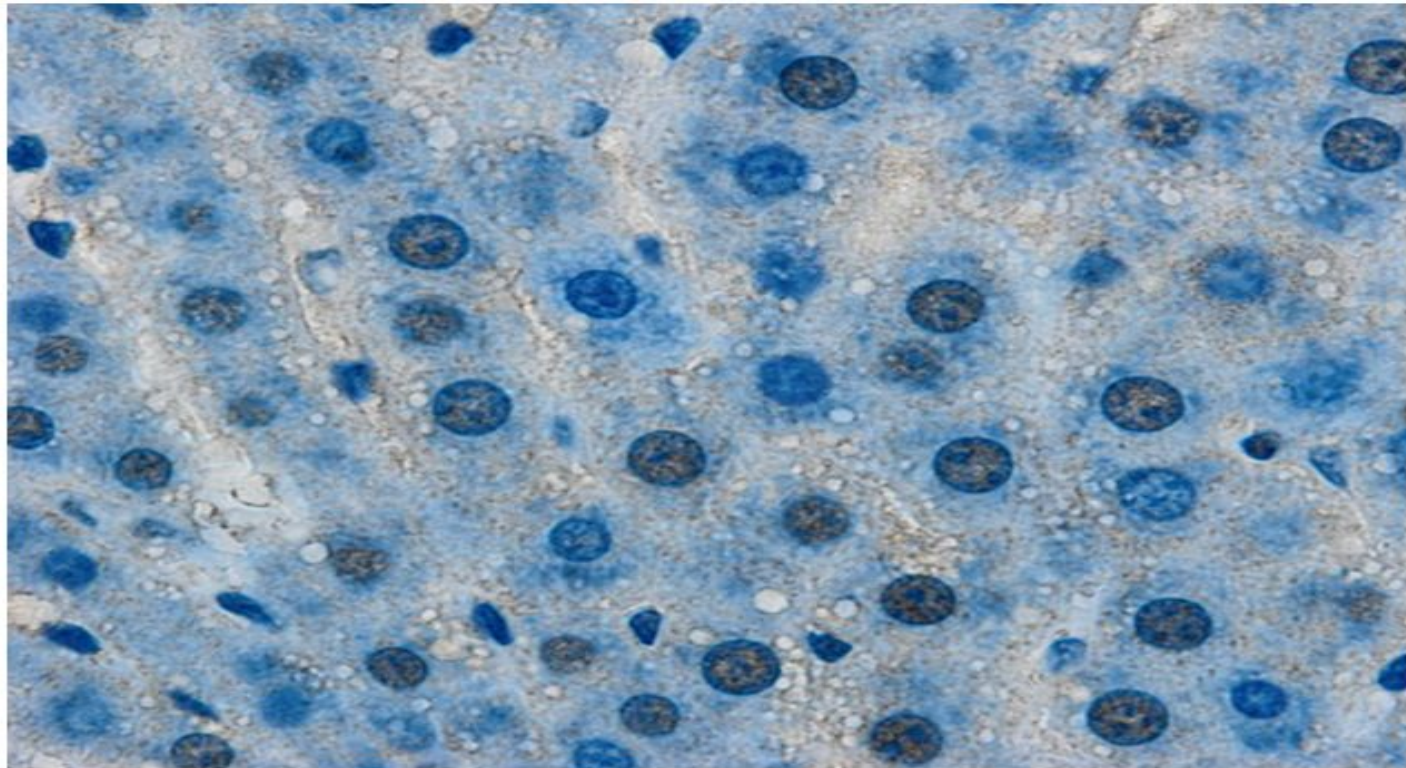
Histology of TAA + vehicle
(M.T. stain 20x)



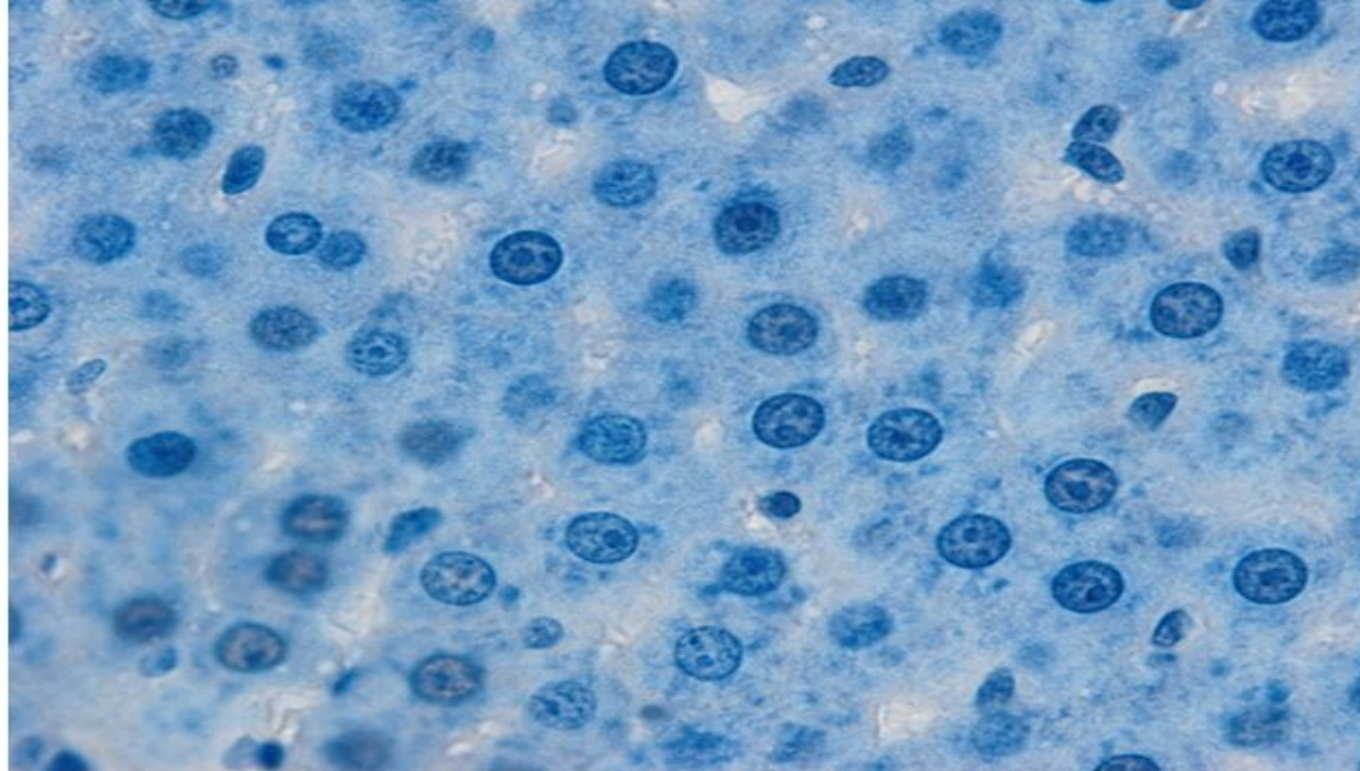
**Histology of TAA + extract/
compound (M.T stain 20x)**



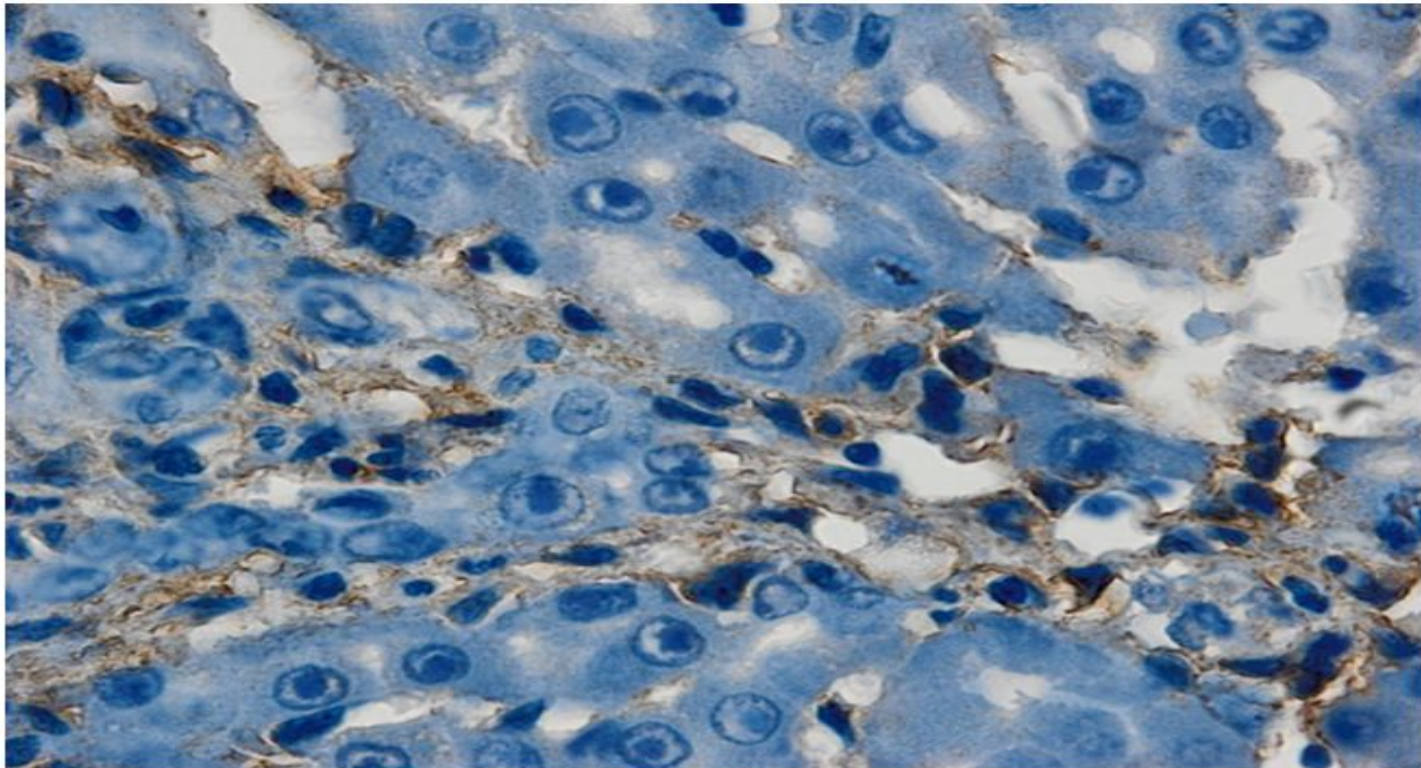
Histology of Normal liver
(PCNA stain 100x)



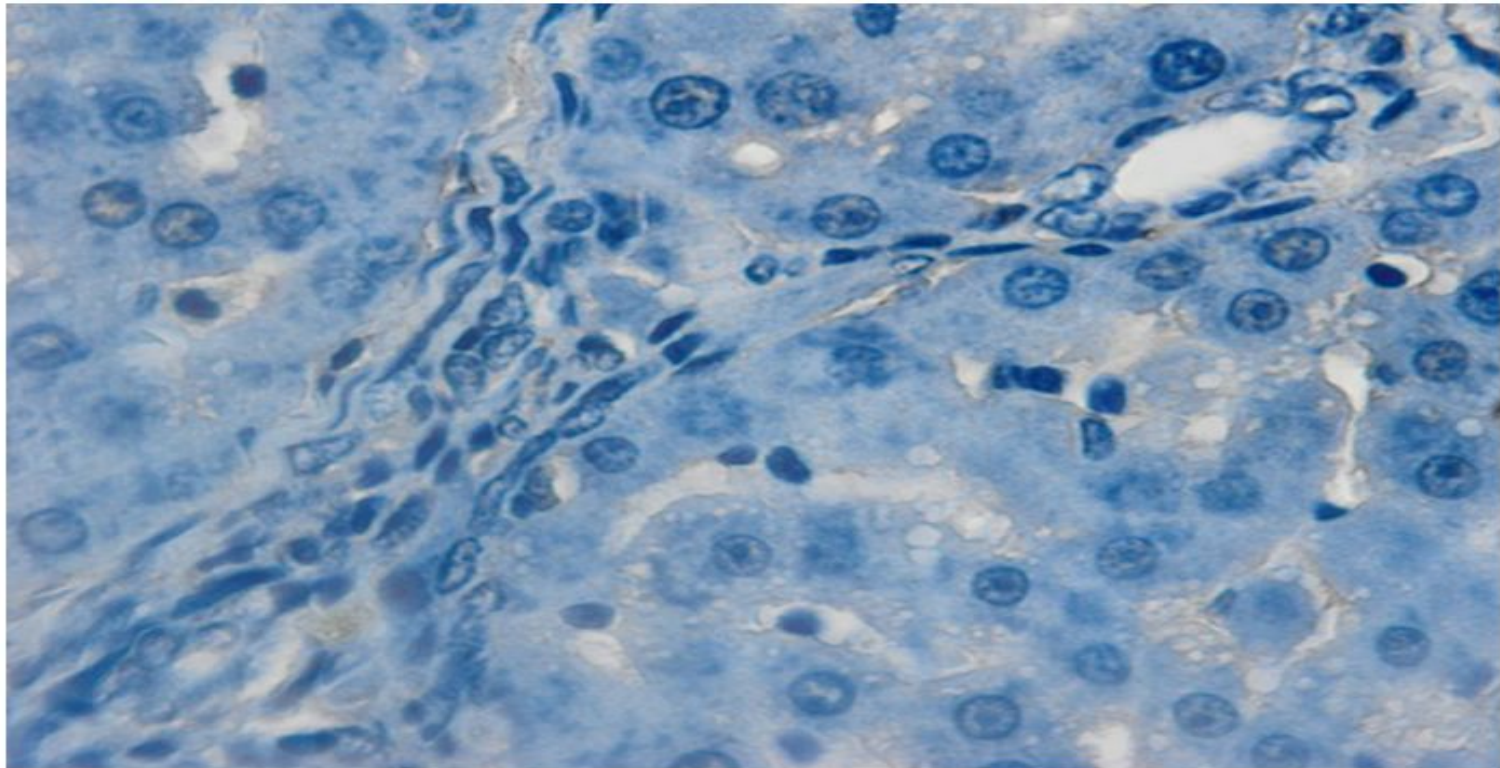
Histology of TAA + vehicle
(PCNA stain 100x)



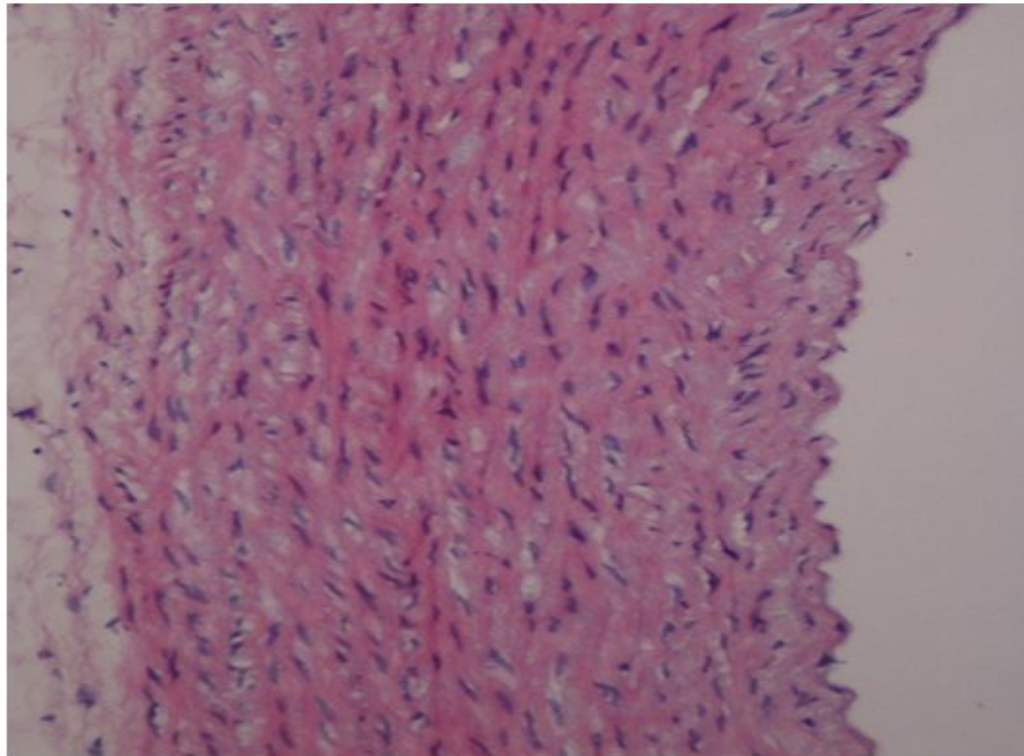
**Histology of TAA + extract/
compound (PCNA stain 100x)**



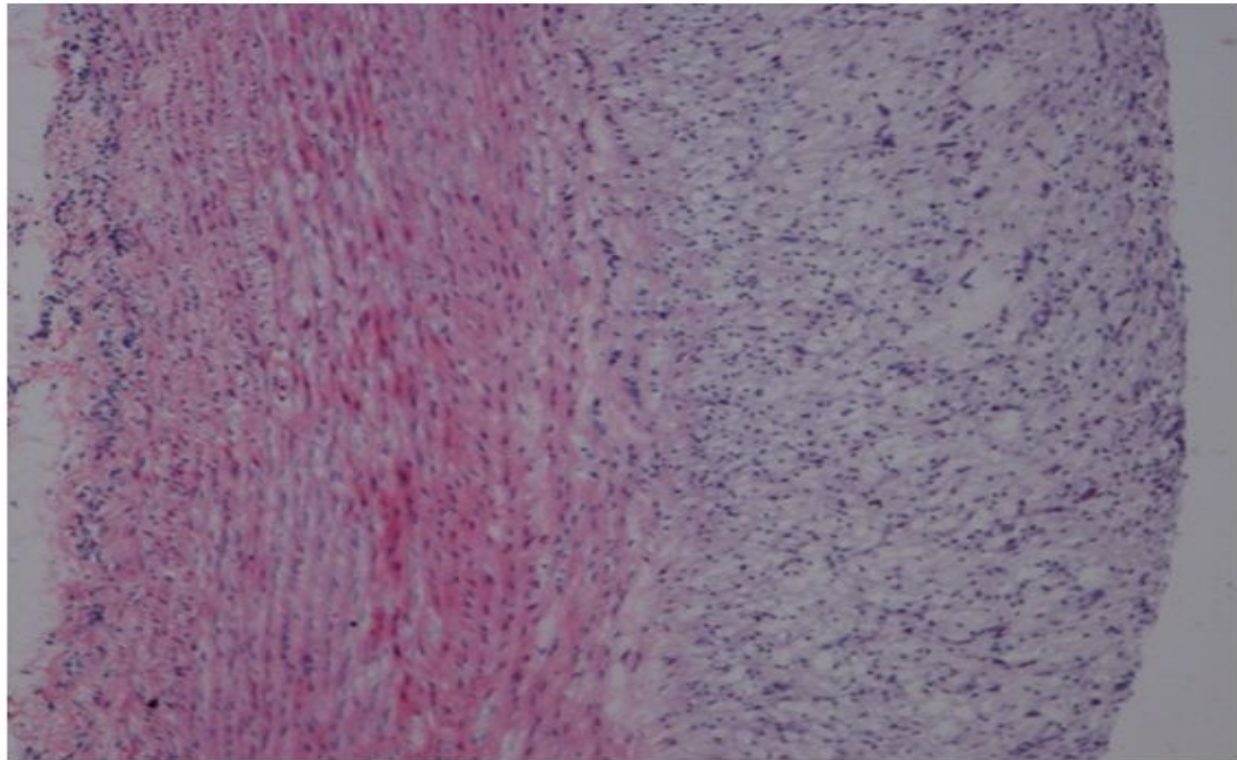
Histology of TAA + vehicle
(Smooth muscle stain 100x)



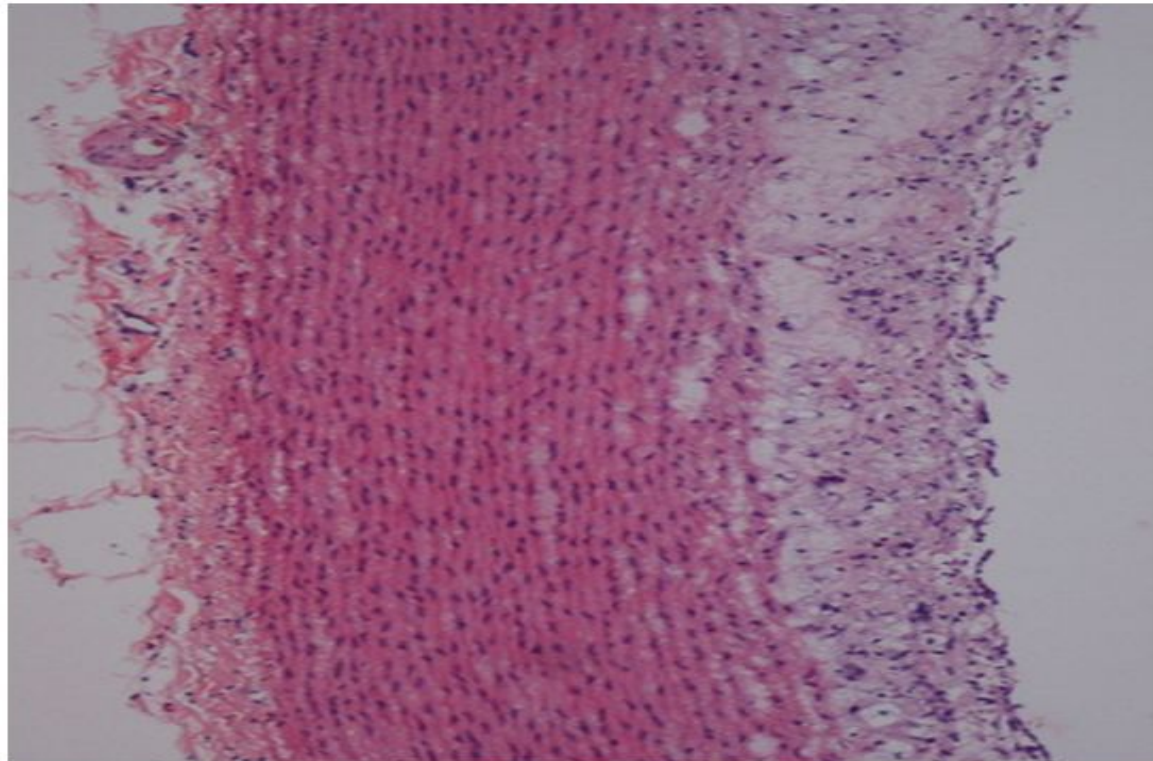
**Histology of TAA + extract/
compound (Smooth M. 100x)**



**Histology of Rabbit aorta fed
with normal diet (H&E 20x)**



Histology of rabbit aorta fed with 1% cholesterol diet (H&E 20x)



Histology of rabbit aorta fed with extract/compound (H&E stain 20x)

*THANK YOU FOR
YOUR ATTENTION!*

