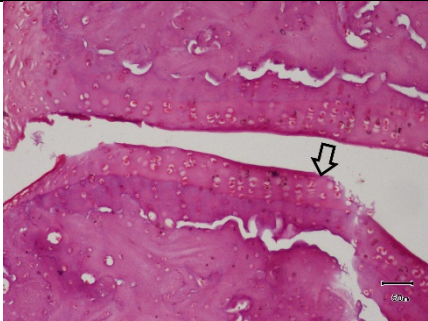
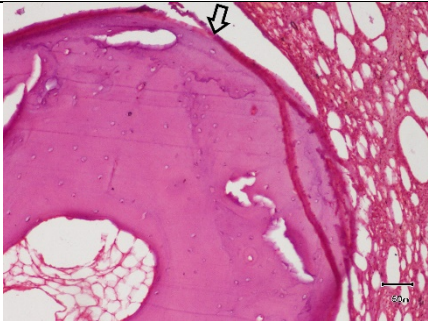
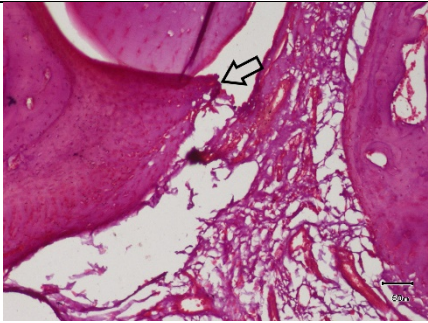
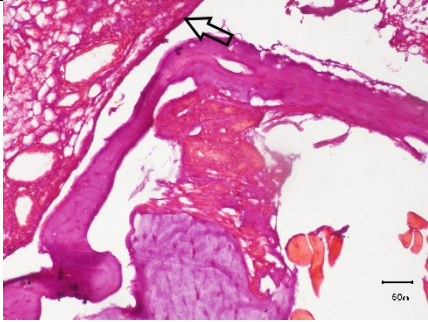
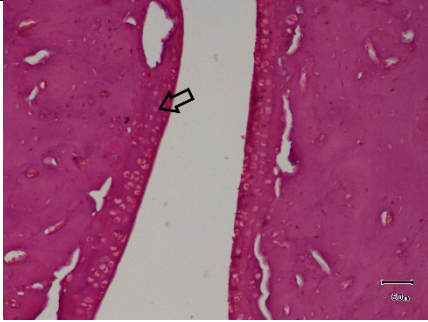


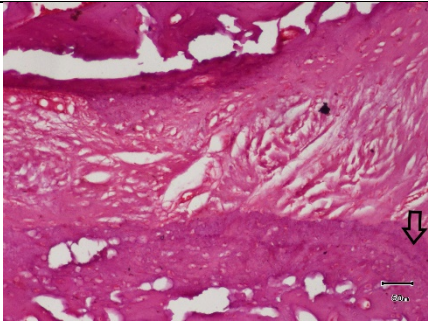
HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

Sr. No.	Organ	Sample code	Magnification	Image No.	Interpretation	Image
1	Paw	N2 (Figure 1 A)	10×10	7	Histopathological examination of the joint reveals no significant abnormalities. The bone tissue appears intact. There is no cartilage erosion, and the joint space appear intact. There is no pannus formation. Additionally, there is no infiltration of inflammatory cells.	
2	Paw	P3 (Figure 1 C)	10×10	8	Histopathological examination of the joint reveals no significant abnormalities. The bone tissue appears intact. There is no cartilage erosion, and the joint space appear intact. There is no pannus formation. Additionally, there is no infiltration of inflammatory cells.	

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3	Paw	GR2 (Figure 1 D)	10×10	12	Microscopic examination of tissue reveals that there is mild cartilage erosion . No other pathological changes like inflammation, necrosis, fibrosis or pannus formation is seen.	
4	Paw	D3 (Figure 1 B)	10×10	13	Microscopic examination of tissue section reveals zone of inflammation characterized by presence of mononuclear inflammatory cells in the section.	
5	Paw	GG1 (Figure 1 F)	10×10	17	Histopathological examination of the joint reveals no significant abnormalities. The bone tissue appears intact. There is no cartilage erosion, and the joint space appear intact. There is no pannus formation. Additionally, there is no infiltration of inflammatory cells.	

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

6	Paw	GB1 (Figure 1 E)	10×10	21	Histopathological examination of the joint reveals no significant abnormalities. The bone tissue appears intact. There is no cartilage erosion, and the joint space appear intact. There is no pannus formation. Additionally, there is no infiltration of inflammatory cells.	
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ID	Haemoglobin. g/dl	RBC's g/dL	Platelets. x10 ⁹ /l	TLC - 10 ⁹ /L	ESR-mm/1st hr
Normal control					
NO C1	12.448	7.17	774	8.1	10.63
NO C2	12.691	7.26	535	8.88	10.99
NO C3	12.783	7.38	540	8	11.12
NO C4	13.057	7.51	640	7.5	11.53
NO C5	13.149	7.64	446	8.2	11.66
NO C6	13.392	7.72	509	8.1	12.02
Negative control					
NE C1	8.048	5.1	1001.2	10.34	18.71
NE C2	8.375	4.6	913.4	10.42	19.11
NE C3	8.5	5.8	1007.5	10.47	19.28
NE C4	8.866	4.8	1151.3	10.67	19.73
NE C5	8.991	5.2	897.89	10.72	19.88

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

NE C6	9.318	5.9	1011	10.8	20.29
Positive Control					
P1	10.173	6.8	813.8	9.1	12.48
P2	10.305	7.1	820	8.9	12.75
P3	10.356	6.1	708.98	8.6	12.85
P4	10.504	6.9	880.4	8.7	13.14
P5	10.555	6.8	719.2	8.6	13.25
P6	10.687	5.9	832.3	7.3	13.51
Treatment Control 1					
TR1	9.628	6	861.48	8.3	13.8
TR2	9.835	5.9	877.65	8.99	14.25
TR3	9.914	5.7	883.82	9.34	14.42
TR4	10.146	6.2	901.98	9.9	14.92
TR5	10.225	7.1	908.15	9.3	15.09
TR6	10.432	6.7	924.32	8.3	15.53
Treatment Control 2					
TG1	10.058	6.3	728.4	7.3	13.32
TG2	10.26	6.7	842.6	9	13.75
TG3	10.338	5.5	901.3	8.9	13.93
TG4	10.562	6.1	709.7	9.1	14.41
TG5	10.64	7.3	812.6	8.7	14.58
TG6	10.842	6.9	800.3	9	15.02
Treatment Control 3					
TB1	11.873	6.9	861.4	8.1	13
TB2	12.026	7	712.3	8.7	15

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

TB3	12.085	7.1	731.3	7.9	12
TB4	12.255	7.1	760.9	8.9	13
TB5	12.314	7.3	590.3	8.9	11
TB6	12.467	7.3	671.8	8.75	14

Marker	Sequence (5'→3')	Reverse/Forward	Tm	GC%	Product length (bp)	Gene Accession Number
GAPDH	TGCCACTCAGAAGACTGTGG	Forward	59.61	55.00	85	NM_017008.4
	GGATGCAGGGATGATGTTCT	Reverse	57.35	50.00		
Cox_2	GGAGCAACCGATGTGGAATTG	Forward	59.70	52.38	104	NM_017232.4
	GCCGGTATCTGCCTTCATGT	Reverse	60.18	55.00		
TNF-α	ATGGGCTCCCTCTCATCAGT	Forward	60.03	55.00	106	NM_012675.3
	GCTTGGTGGTTTGCTACGAC	Reverse	59.76	55.00		
IL-4	ACCCTGTTCTGCTTTCTC	Forward	54.06	50.00	168	NM_201270.1
	GTTCTCCGTGGTGTTCTT	Reverse	56.48	55.56		
IL-6	GCCCTTCAGGAACAGCTATGA	Forward	59.79	52.38	80	NM_012589.2
	TGCAACAACATCAGTCCCAAGA	Reverse	60.12	43.48		
NF-kB	TGGACGATCTGTTCCCTC	Forward	59.10	55.00	115	NM_199267.2

Sample ID	Gene of Interest	House keeping Gene	Gene of Interest Ct
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Normal control

NO C1	COX-II	21.27	24.95
NO C2	COX-II	22.76	26.44
NO C3	COX-II	20.21	25.48
NO C4	COX-II	19.15	26.91
NO C5	COX-II	21.25	25.96
NO C6	COX-II	20.54	26.32

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

Negative control

NE C1	COX-II	24.36	33.42
NE C2	COX-II	21.98	34.71
NE C3	COX-II	21.99	34.05
NE C4	COX-II	23.02	35.02
NE C5	COX-II	22.98	34.31
NE C6	COX-II	24.48	34.59

Positive Control

P1	COX-II	24.25	29.48
P2	COX-II	22.65	28.56
P3	COX-II	23.23	29.62
P4	COX-II	21.36	29.11
P5	COX-II	22.3	28.97
P6	COX-II	23.01	29.34

Treatment Control

1

TR1	COX-II	21.59	29.65
TR2	COX-II	19.06	30.39
TR3	COX-II	20.32	31.02
TR4	COX-II	21.69	30.08
TR5	COX-II	22.65	31.02
TR6	COX-II	19.86	30.66

Treatment Control

2

TG1	COX-II	21.43	20.08
TG2	COX-II	17.13	28.12
TG3	COX-II	19.58	30.51
TG4	COX-II	20.24	29.26

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

TG5	COX-II	22	28.88
TG6	COX-II	21.04	29.67
Treatment Control 3			
TB1	COX-II	20.34	28.11
TB2	COX-II	17.29	26.2
TB3	COX-II	19.35	28.67
TB4	COX-II	18.25	26.89
TB5	COX-II	16.65	27.33
TB6	COX-II	17.36	27.62
Normal control			
NO C1	IL-4	21.27	26.48
NO C2	IL-4	22.76	27.09
NO C3	IL-4	20.35	28.52
NO C4	IL-4	21.31	27.58
NO C5	IL-4	21.1	28.26
NO C6	IL-4	22.1	27.91
Negative control			
NE C1	IL-4	21.99	28
NE C2	IL-4	18.91	27.1
NE C3	IL-4	17.2	26.18
NE C4	IL-4	18.93	27.6
NE C5	IL-4	19.35	26
NE C6	IL-4	20.1	25.35
Positive Control			
P1	IL-4	23.23	30.06
P2	IL-4	22.21	29.49

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

P3	IL-4	21.52	29.18
P4	IL-4	21.36	30.49
P5	IL-4	21.57	29.76
P6	IL-4	23.1	29.88

Treatment Control 1

TR1	IL-4	21.59	28.32
TR2	IL-4	19.06	29.1
TR3	IL-4	20.21	28.57
TR4	IL-4	21.86	28.69
TR5	IL-4	22.12	28.95
TR6	IL-4	18.25	28.81

Treatment Control 2

TG1	IL-4	21.43	30.24
TG2	IL-4	18.3	30.51
TG3	IL-4	22.31	29.91
TG4	IL-4	21.35	30.05
TG5	IL-4	22	29.37
TG6	IL-4	21.39	29.68

Treatment Control 3

TB1	IL-4	23.35	30.58
TB2	IL-4	24.36	32.85
TB3	IL-4	22.35	31.59
TB4	IL-4	23.32	32.13
TB5	IL-4	23.36	31.16
TB6	IL-4	22.68	31.89

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

Normal control

NO C1	IL-6	21.27	24.26
NO C2	IL-6	22.76	24.43
NO C3	IL-6	19.25	24.56
NO C4	IL-6	20.33	24.61
NO C5	IL-6	19.99	24.79
NO C6	IL-6	20.35	24.83

Negative control

NE C1	IL-6	22.1	31.26
NE C2	IL-6	23.3	32.69
NE C3	IL-6	24.32	31.95
NE C4	IL-6	23.12	32.08
NE C5	IL-6	22.35	32.37
NE C6	IL-6	22.65	34.49

Positive Control

P1	IL-6	22.31	26.38
P2	IL-6	21.35	27.3
P3	IL-6	21.1	26.84
P4	IL-6	22.15	27.15
P5	IL-6	21.35	27.03
P6	IL-6	20.31	26.88

Treatment Control 1

TR1	IL-6	21.59	28.92
TR2	IL-6	19.06	30.55
TR3	IL-6	20.25	29.54
TR4	IL-6	22.21	30.13
TR5	IL-6	22.54	29.92

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

TR6	IL-6	22.65	29.68
Treatment Control 2			
TG1	IL-6	21.43	28.11
TG2	IL-6	19.35	29.27
TG3	IL-6	20.32	29.04
TG4	IL-6	22.2	28.83
TG5	IL-6	21.35	28.69
TG6	IL-6	22.01	28.62
Treatment Control 3			
TB1	IL-6	20.34	28.87
TB2	IL-6	17.29	28.53
TB3	IL-6	19.35	28.09
TB4	IL-6	20.22	28.26
TB5	IL-6	21.35	27.98
TB6	IL-6	20.54	27.29
Normal control			
NO C1	NF-Kb	21.27	26.83
NO C2	NF-Kb	22.76	25.36
NO C3	NF-Kb	21.31	27.01
NO C4	NF-Kb	20.32	25.92
NO C5	NF-Kb	19.98	25.14
NO C6	NF-Kb	20.11	26.4
Negative control			
NE C1	NF-Kb	23.21	34.02
NE C2	NF-Kb	22.32	33.35

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

NE C3	NF-Kb	21.95	35.32
NE C4	NF-Kb	23.66	35.4
NE C5	NF-Kb	23	34.93
NE C6	NF-Kb	22.54	34.97

Positive Control

P1	NF-Kb	22.32	29.39
P2	NF-Kb	21.35	29.13
P3	NF-Kb	23.23	26.2
P4	NF-Kb	22.32	29.2
P5	NF-Kb	21.32	28.94
P6	NF-Kb	20.32	30.97

Treatment Control 1

TR1	NF-Kb	21.59	30.16
TR2	NF-Kb	23.42	31.3
TR3	NF-Kb	20.65	32.32
TR4	NF-Kb	21.35	32.01
TR5	NF-Kb	22.25	31.32
TR6	NF-Kb	23.55	31.36

Treatment Control 2

TG1	NF-Kb	21.43	28.91
TG2	NF-Kb	17.13	28.39
TG3	NF-Kb	20.22	29.73
TG4	NF-Kb	21.21	29.92
TG5	NF-Kb	20.32	30.97
TG6	NF-Kb	21.32	31.65

Treatment Control

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

3

TB1	NF-Kb	20.34	28.37
TB2	NF-Kb	17.43	26.47
TB3	NF-Kb	18.36	27.69
TB4	NF-Kb	19.32	28.68
TB5	NF-Kb	20.24	29.01
TB6	NF-Kb	21.32	27.36

Normal control

NO C1	TNF- α	21.27	26.95
NO C2	TNF- α	22.76	25.98
NO C3	TNF- α	22.35	27.01
NO C4	TNF- α	23.22	26.97
NO C5	TNF- α	19.55	26.36
NO C6	TNF- α	20.36	26.01

Negative control

NE C1	TNF- α	22.32	34.02
NE C2	TNF- α	21.55	33.35
NE C3	TNF- α	23.35	32.35
NE C4	TNF- α	23.58	32.9
NE C5	TNF- α	22.95	33.1
NE C6	TNF- α	23.88	34.97

Positive Control

P1	TNF- α	23.23	29.39
P2	TNF- α	22.32	29.12
P3	TNF- α	21.32	26.98
P4	TNF- α	23.22	29.97
P5	TNF- α	22.21	28.94
P6	TNF- α	21.22	30.97

HISTOPATHOLOGICAL, CBC and CYTOKINES INTERPRETATION OF RAT PAWS OF RESEARCH OF HASSAN NAVEED

Treatment Control 1

TR1	TNF- α	21.59	31.61
TR2	TNF- α	19.06	34.35
TR3	TNF- α	20.33	32.32
TR4	TNF- α	21.33	30.32
TR5	TNF- α	20.68	30.97
TR6	TNF- α	21.55	29.36

Treatment Control 2

TG1	TNF- α	21.43	30.83
TG2	TNF- α	17.13	29.8
TG3	TNF- α	23.25	29.78
TG4	TNF- α	22.21	29.92
TG5	TNF- α	21.52	30.97
TG6	TNF- α	20.36	31.65

Treatment Control 3

TB1	TNF- α	20.34	30.15
TB2	TNF- α	19.98	30.87
TB3	TNF- α	21.35	27.69
TB4	TNF- α	22.32	28.68
TB5	TNF- α	21.35	29.01
TB6	TNF- α	23.21	27.36