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GLOSSARY

The following are some of the commonly used terms in the thesis:

**Inflammation**: part of the complex biological response of vascular tissues to harmful stimuli, such as pathogens, damaged cells, or irritants. Its signs are pain, heat, redness, swelling, and loss of function.

**Cartilage**: flexible connective tissue found in many areas of the bodies of humans and other animals, including the joints between bones, the rib cage, the ear, the nose, the bronchial tubes and the intervertebral discs. It is not as hard and rigid as bone but is stiffer and less flexible than muscle. Cartilage is composed of specialized cells called chondrocytes.

**Degeneration**: process of the cartilage being deteriorated or decline.

**Polyclonal antibody**: antibodies that are secreted by different B cell lineages within the body. They are a collection of immunoglobulin molecules that react against a specific antigen, each identifying a different epitopes. They are typically produced by inoculation of a suitable mammal, such as a mouse, rabbit or goat.
ABBREVIATIONS

Ab : Antibody
ACL : Anterior cruciate ligament
ACR : American college of Rheumatology
Arg : Arginine
Asn : Asparagine
BMP : Bone morphogenetic protein
BSA : Bovine serum albumin
CDMP : Cartilage derived morphogenetic proteins
CNS : Central nervous system
DAB : Diamino benzidine
dl : Deciliter
DDW : Double distilled water.
ELISA : Enzyme linked immunosorbent assay
FCA : Freunds complete adjuvant
GPx : Glutathione peroxidase
HA : Hyaluronic acid
HCl : Hydrochloric acid
HPLC : High performance liquid chromatography
IgG : Immunoglobulin-G
IGF-1 : Insulin growth factor-1
KDa : Kilodalton
KL : Kellgren-Lawrence
KS : Keratan sulfate
mg : Milligram
ml : Milliliter
MMP : Metalloproteinase
MRI : Magnetic resonance imaging
MWM : Molecular weight marker
ng : Nanogram
NIAMS : National Institute of Arthritis and Muscoskeletal and Skin Diseases.
NHANES : National Health and Nutrition Examination Survey
NO : Nitric oxide
NS : Not significant
NSAIDS : Non steroidal inflammatory drugs
OA : Osteoarthritis
OP-1 : Osteogenic protein-1
PBS : Phosphate buffer saline
PBS/T : Phosphate buffer saline/Tween-20
PG : Prostaglandin
rpm : Rotation per minute
RA : Rheumatoid arthritis
ROS : Reactive oxygen species
SBP : Sodium phosphate buffer
SD : Standard deviation
SDS-PAGE : Sodium dodecyl polyacrylamide gel electrophoresis
Se : Serine
SOD : Superoxide dismutase
TEMED : N,N,N’, N’-Tetramethylethylene diamine
TGF : Tumor growth factor
TGF-β : Transforming growth factor- 1
Thr : Threonine
TNF : Tumor necrosis factor
UA : Uric acid
TMB : 3, 3, 5, 5-tetramethylbenzidine
mM : Millimolar
NCP : Nitrocellulose paper
HRP : Horseradish peroxidase
NOTATION

n : sample size on case

r : ratio of control to cases

σ : standard deviation

$Z_{\alpha}$ : desired power

$Z_{\alpha/2}$ : desired level of statistical significance

P : probability

m : mean

r : correlation coefficient