

# Potential of miRNAs as Biomarkers of Osteoarthritis

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## INTRODUCTION:

potential as biomarkers of OA. The aim of this review is to highlight studies of miRNAs in OA knee joint published between 2017 and 2022. The review used defined search criteria and manually filtered the articles of relevance to OA field. Articles were chosen for further discussion based on field and criteria mentioned in the review

## MATERIALS & METHODS:

### Search Strategy

The review conducted using Pubmed, Web of Science (WOS), Scopus and Science Direct databases. Keywords of the search terms are 'miRNA' AND 'Osteoarthritis (OA)' AND 'Rat model'. The methods of searching were (All Fields) for Pubmed, (Topic) for WOS, (Article Title/Abstract/Keywords) for Scopus and (Keywords) for Science Direct. Range of date of publication filtered from 2017 to 2022.

### Study Selection

Focus subjects in this review are expression of miRNA in preventing, improving cartilage degradation and suppressing inflammation in knee joint of OA rat model for finding potential of miRNA as biomarkers of OA. However, only pre-clinical studies were included as eligible for the review. Plus, duplicates of articles were excluded from analysis followed by non-articular cartilage, systematic reviews, reviews, non-English articles and not rat model studies.

### Data Extraction

Information includes authors, publications year, type of animals and miRNA expression before and after treatment of OA.

## RESULTS:

Literature from 2017 to 2022 showed 2624 of total articles with only 14 findings related to pre-clinical studies included in the analysis.

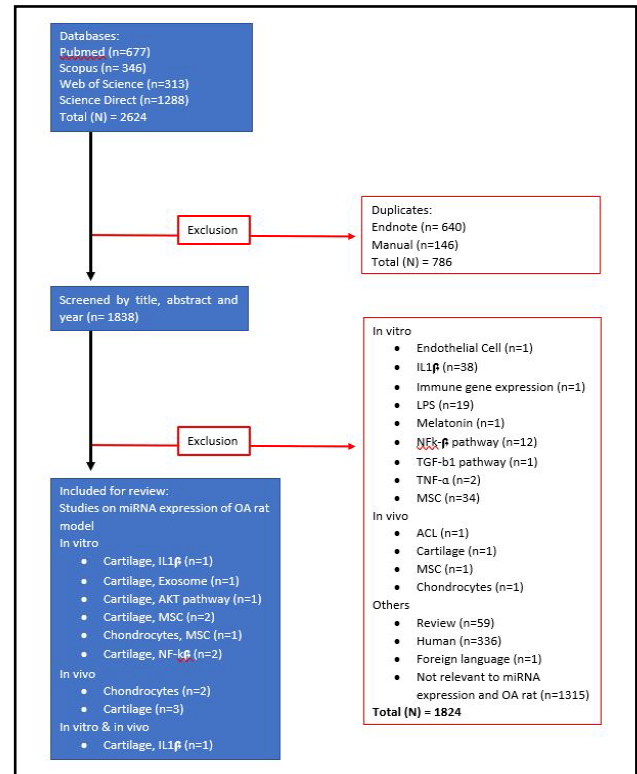


Figure 1: Flow diagram of literature search

## DISCUSSIONS:

Several pre-clinical studies found specific MicroRNAs expressed differently in OA rat model, healthy rat model and during treatment of OA. Function of the miRNAs in regulating chondrocytes production and knee joint inflammation.

## CONCLUSION:

Pre-clinical studies proving potential of miRNA as biomarkers of OA. Thus, could be next source for miRNAs origin as OA biomarkers.

## REFERENCES:

1. He, X. and L. Deng, *Potential of miR-25-3p in protection of chondrocytes: emphasis on osteoarthritis*. Folia Histochem Cytobiol, 2021. **59**(1): p. 30-39