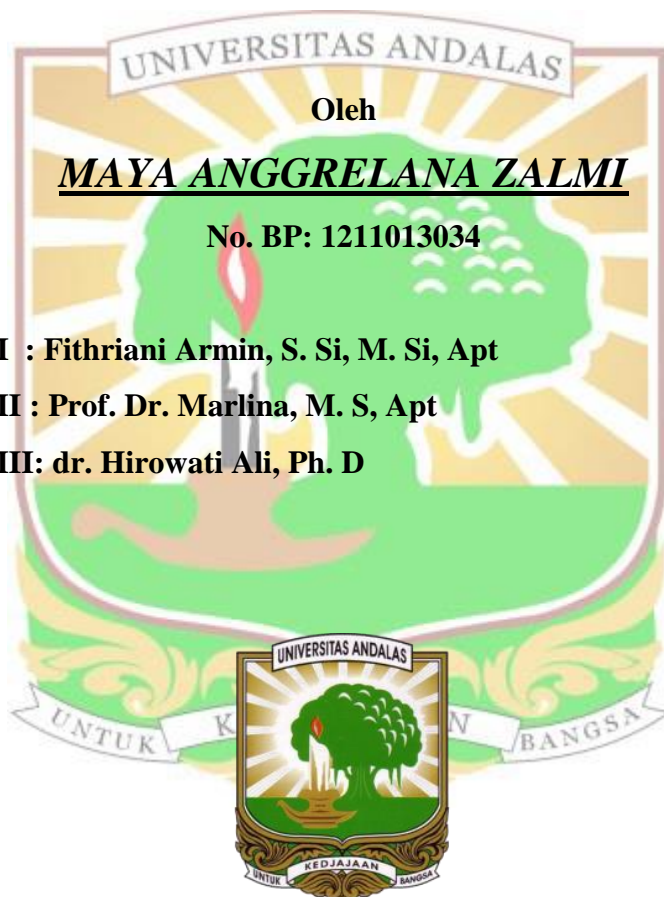


**EKSPRESI GEN CALMODULIN-1 PADA
JARINGAN SINOVIAL PASIEN
OSTEOARTHRITIS LUTUT GRADE IV
PADA BEBERAPA RUMAH SAKIT
DI KOTA PADANG**

SKRIPSI SARJANA FARMASI



Oleh

MAYA ANGGRELANA ZALMI

No. BP: 1211013034

Pembimbing I : Fithriani Armin, S. Si, M. Si, Apt

Pembimbing II : Prof. Dr. Marlina, M. S, Apt

Pembimbing III: dr. Hirowati Ali, Ph. D

**FAKULTAS FARMASI
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EKSPRESI GEN CALMODULIN-1 PADA JARINGAN SINOVIAL PASIEN OSTEOARTHRITIS LUTUT GRADE IV PADA BEBERAPA RUMAH SAKIT DI KOTA PADANG

ABSTRAK

Osteoarthritis merupakan gangguan tulang rawan artikular dan penyebab kecacatan pada orang tua. Prevalensi osteoarthritis lutut di Indonesia 15,5% pada wanita dan 12,7% pada pria. Osteoarthritis disebabkan oleh berbagai faktor resiko seperti usia, jenis kelamin dan genetika. Selain faktor resiko tersebut, terdapat banyak gen yang terlibat dalam patofisiologi penyakit osteoarthritis salah satunya adalah gen calmodulin-1 (CALM-1). Penelitian ini dilakukan untuk mengetahui ekspresi gen CALM-1 pada jaringan sinovial pasien osteoarthritis lutut *grade IV* pada beberapa rumah sakit di Kota Padang. Pada penelitian ini sampel berupa jaringan sinovial pasien osteoarthritis lutut *grade IV* yang telah menjalani operasi TKR (*Total Knee Replacement*) yang dilakukan oleh dokter spesialis ortopedi. Jumlah jaringan sinovial sebanyak dua belas sampel dengan sembilan sampel berjenis kelamin perempuan dan tiga sampel berjenis kelamin laki-laki. Isolasi RNA dilakukan dari jaringan sinovial kemudian RNA ditranskripsi balik menjadi cDNA dan dilakukan deteksi gen CALM-1 dari masing-masing cDNA sampel menggunakan Real Time PCR (RT-PCR). Hasil penelitian didapatkan nilai RQ deteksi gen CALM-1 berkisar antara 0,3487-14,0744. Level ekspresi gen CALM-1 pada penelitian ini sangat bervariasi, sehingga dapat disimpulkan bahwa gen CALM-1 tidak spesifik sebagai parameter penyebab osteoarthritis.

Kata kunci: osteoarthritis, gen CALM-1, RNA, cDNA, RT-PCR



EXPRESSION OF CALMODULIN-1 GENE IN SYNOVIAL TISSUE OF GRADE IV KNEE OSTEOARTHRITIS PATIENTS IN SEVERAL HOSPITALS IN THE PADANG CITY

ABSTRACT

Osteoarthritis is an articular cartilage disorder and a cause of disability in the elderly. The prevalence of knee osteoarthritis in Indonesia was 15.5% in women and 12.7% in men. Osteoarthritis is caused by various risk factors such as age, sex, and genetics. In addition to these risk factors, there are a lot of genes involved in the pathophysiology of osteoarthritis, one of them is calmodulin-1 (CALM-1) gene. This study was conducted to determine the expression of CALM-1 gene in synovial tissue of grade IV knee osteoarthritis patients in several hospitals in Padang City. In this study, the samples were synovial tissue of grade IV knee osteoarthritis patients who had undergone TKR (Total Knee Replacement) surgery performed by orthopedic specialists. Twelve samples of synovial tissue with nine samples were female and three were male. RNA isolation was carried out from synovial tissue and then RNA was reverse transcribed into cDNA and CALM-1 gene detection from each sample cDNA had been using Real Time PCR (RT-PCR). The results showed that the ratio quantification (RQ) value of CALM-1 gene detection ranged from 0.3487-14.0744. The CALM-1 gene expression level in this study varies greatly, so it can be concluded that the CALM-1 gene is not specific as a parameter causing osteoarthritis.

Keywords: osteoarthritis, CALM-1 gene, RNA, cDNA, RT-PCR

