

ABSTRAK

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DETEKSI GEN SAP2 *Candida albicans* PADA ISOLAT SWAB ULKUS

DIABETIKUM MENGGUNAKAN METODE *REAL-TIME* PCR

xvii + 107 Halaman + 6 Tabel + 18 Lampiran

Ulkus diabetikum merupakan komplikasi kronis yang sering terjadi pada penderita diabetes melitus dan rentan mengalami infeksi mikroorganisme, termasuk jamur *Candida albicans*. Salah satu faktor virulensi utama *Candida albicans* adalah gen Secreted Aspartyl Proteinase 2 (SAP2) yang berperan dalam proses invasi jaringan inang. Deteksi dini terhadap gen SAP2 sangat penting untuk memahami potensi patogenitas *Candida albicans* pada ulkus diabetikum.

Penelitian ini bertujuan untuk mendeteksi keberadaan gen SAP2 *Candida albicans* pada isolat swab ulkus diabetikum menggunakan metode Real-Time PCR. Sampel berupa isolat swab ulkus diabetikum diperoleh dari Rumat Spesialis Luka Diabetes cabang Surabaya. Penelitian ini menggunakan metode penelitian deskriptif kuantitatif dengan pendekatan cross-sectional, yang dilakukan pada bulan November 2024-Mei 2025 di Laboratorium Mikrobiologi dan Biologi Molekuler di Kampus Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya.

Hasil penelitian menunjukkan bahwa dari 30 sampel terdapat 2 sampel (7%) teridentifikasi positif *Candida albicans* secara makroskopis, mikroskopis, dan uji biokimiawi. Dari 2 sampel tersebut tidak terdeteksi gen SAP2 *Candida albicans* menggunakan metode Real-Time PCR dengan interpretasi nilai Cycle Threshold (CT), sehingga didapatkan presentase 100% negatif gen SAP2.

Kata kunci : *Candida albicans*, gen SAP2, ulkus diabetikum, *Real-Time* PCR

Daftar bacaan : 5 buku (20016-2023)

ABSTRACT

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DETECTION OF SAP2 GENE CANDIDA ALBICANS IN DIABETIC ULCER SWAB ISOLATES USING REAL-TIME PCR METHOD

xvii + 107 Pages + 6 Tables + 18 Appendices

Diabetic ulcers are chronic complications that often occur in patients with diabetes mellitus and are susceptible to infection by microorganisms, including Candida albicans. One of the main virulence factors of Candida albicans is the Secreted Aspartyl Proteinase 2 (SAP2) gene which plays a role in the process of invasion of host tissue. Early detection of the SAP2 gene is very important to understand the potential pathogenicity of Candida albicans in diabetic ulcers.

This study aims to detect the presence of Candida albicans SAP2 gene in diabetic ulcer swab isolates using Real-Time PCR method. Samples in the form of diabetic ulcer swab isolates were obtained from the Surabaya branch of Rumat Spesialis Luka Diabetes (Diabetic Ulcer Specialist Clinic). This study used a quantitative descriptive research method with a cross-sectional approach, which was conducted in November 2024-May 2025 at the Microbiology and Molecular Biology Laboratory, Department of Medical Laboratory Technology, Poltekkes Kemenkes Surabaya.

The results showed that out of 30 samples, 2 samples (7%) were identified as positive for Candida albicans by macroscopic, microscopic, and biochemical tests. The examination was continued using Real-Time PCR with the interpretation of the Cycle Threshold (CT) value. From these 2 samples, the SAP2 Candida albicans gene was not detected using the Real-Time PCR method with the interpretation of the Cycle Threshold (CT) value, so that a percentage of 100% negative for the SAP2 gene was obtained.

Keywords : Candida albicans, SAP2 gene, diabetic ulcer, Real-Time PCR.

References : 5 books (2016-2023)