

ABSTRAK

Trichophyton rubrum menyebabkan penyakit kulit yang disebut Dermatofitosis. Jamur ini merupakan agen penyebab dermatofitosis terbanyak pada manusia dan memiliki gen MEP4 yang bertindak sebagai faktor virulensi jamur terhadap inang, sehingga menyebabkan terjadinya aktivitas biodegradasi proteolitik dan rambut secara kuat. Kasus dermatofita relatif sering terjadi pada lingkungan yang sesak dan kebersihan yang rendah seperti pondok pesantren dan sifat antropofilik yang dimiliki oleh *Trichophyton rubrum* dapat menyebabkan infeksi kronik. Penelitian ini bertujuan untuk mengidentifikasi gen MEP4 *Trichophyton rubrum* pada pemeriksaan isolat kerok kulit kepala santriwati dengan metode *Real Time-Polymerase Chain Reaction*. Pengambilan sampel dilakukan di Pondok Pesantren Darul Ulum, Peterongan, Jombang. Penelitian dilakukan selama bulan Oktober 2022 – Mei 2023 dan dilaksanakan di Laboratorium Biologi Molekuler dan Parasitologi Jurusan Teknologi Laboratorium Medis, Poltekkes Kemenkes Surabaya. Metode penelitian yang digunakan pada penelitian ini adalah deskriptif, bertujuan mendeteksi gen MEP4 *Trichophyton rubrum* tanpa membandingkan antar variabel. Teknik analisa data dalam penelitian ini adalah identifikasi karakteristik *Trichophyton rubrum* secara makroskopis dan mikroskopis serta deteksi gen MEP4 *Trichophyton rubrum* pada isolat kerok kulit kepala dengan *Real Time-Polymerase Chain Reaction* (RT-PCR) menggunakan interpretasi nilai *Cycle Threshold* (CT). Berdasarkan hasil penelitian yang dilakukan pada 80 sampel didapatkan 30 sampel (37,5%) positif *Trichophyton rubrum*. Gen MEP4 terdeteksi pada 30 sampel (100%) isolat kerok kulit kepala santriwati. Kesimpulan penelitian ini adalah terdapat gen MEP4 *Trichophyton rubrum* pada hasil pemeriksaan isolat kerok kulit kepala santriwati dengan metode *Real Time-Polymerase Chain Reaction* (RT-PCR).

Kata kunci : Dermatofitosis, Gen MEP4, *Trichophyton rubrum*, RT-PCR

ABSTRACT

Trichophyton rubrum causes a skin disease called Dermatophytosis. This fungus is the most common causative agent of dermatophytosis in humans and has the MEP4 gene which acts as a virulence factor for the fungus against the host, causing strong proteolytic and hair biodegradation activity. Dermatophyte cases are relatively common in crowded environments and low hygiene such as Islamic boarding schools and the anthropophilic nature of *Trichophyton rubrum* can cause chronic infections. This study aims to identify the MEP4 gene *Trichophyton rubrum* in the examination of female students' scalp scraping isolates using the Real Time-Polymerase Chain Reaction method. Sampling was carried out at the Darul Ulum Islamic Boarding School, Peterongan, Jombang. The research was conducted during October 2022 – May 2023 and was carried out at the Molecular Biology and Parasitology Laboratory, Department of Medical Laboratory Technology, Poltekkes Kemenkes Surabaya. The research method used in this study was descriptive, aiming to detect the MEP4 *Trichophyton rubrum* gene without comparing between variables. Data analysis techniques in this study were macroscopic and microscopic identification of the characteristics of *Trichophyton rubrum* and detection of the MEP4 gene of *Trichophyton rubrum* in scalp scraping isolates by Real Time-Polymerase Chain Reaction (RT-PCR) using Cycle Threshold (CT) value interpretation. Based on the results of research conducted on 80 samples, 30 samples (37.5%) were positive for *Trichophyton rubrum*. The MEP4 gene was detected in 30 samples (100%) of female students' scalp scraping isolates. The conclusion of this study was that the MEP4 gene *Trichophyton rubrum* was found in the results of examining female students' scalp scraping isolates using the Real Time-Polymerase Chain Reaction (RT-PCR) method.

Keywords : Dermatophytosis, MEP4 gene, *Trichophyton rubrum*, RT-PCR