Fusi immunodominant region (IDR) Gp41 HIV-1 dengan Bovine Serum Albumin (BSA) untuk meningkatkan kinerja uji serologi HIV = Fusion of HIV-1 Gp41 immunodominant region (IDR) with Bovine Serum Albumin (BSA) to increase the performance of HIV serology assay

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Abstrak

ABSTRAK
Human Immunodeficiency Virus HIV merupakan virus yang menyebabkan Acquired Immune Deficiency Syndrome AIDS. Infeksi HIV dapat bersifat laten. Tahapan infeksi meliputi infeksi primer, diseminasi virus ke organ limfoid, peningkatan ekspresi HIV, timbulnya gejala penyakit, dan kematian. Dalam upaya pengendalian kasus infeksi HIV, maka dibutuhkan uji diagnostik serologi yang sensitif dan spesifik. Diagnosis suatu spesimen diawali dengan uji skrining yang berguna untuk identifikasi presumtif kandungan antibodi di dalam spesimen. Salah satu uji skrining yang umum enzyme linked immunosorbent assay ELISA . Uji ELISA untuk diagnosis infeksi HIV saat ini dilakukan berdasarkan antigen, antara lain p24 yang merupakan bagian protein Gag, serta gp41 dan gp120 yang merupakan bagian protein envelope. Telah dilakukan fusi peptida daerah imunodominan gp41 dari 4 subtipe HIV-1 tetraIDR env dengan BSA dalam upaya pengembangan uji ELISA berbasis antigen rekombinan. Gen BSA-tIDR disisipkan ke dalam vektor ekspresi pQE80L dan pengklonaan berhasil menghasilkan plasmid pQE80-BSA-tIDR. Ekspresi protein rekombinan pada bakteri E.coli dilakukan untuk menghasilkan protein BSA-tIDR dan tIDR . Ekspresi protein berhasil dilakukan pada kondisi suhu 37oC, dan dengan induksi IPTG 1 mM selama 4 jam. Protein BSA-tIDR belum berhasil dipurifikasi dengan metode NiNTA. Uji western blot dilakukan terhadap protein hasil ekspresi BSA-tIDR, hasil purifikasi tIDR, dan BSA saja . Hasil uji western blot dengan serum pasien positif HIV-1 memberikan hasil positif pada protein BSA-tIDR dan tIDR.
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ABSTRACT
Human Immunodeficiency Virus HIV is a virus that causes Acquired Immune Deficiency Syndrome AIDS. HIV infection can be latent. Stages of infection include primary infection, viral dissemination to lymphoid organs, increased HIV expression, onset of symptoms, and death. In order to control the HIV infection, a sensitive and specific serologic diagnostic test is required. The diagnosis of a specimen begins with a screening test useful for presumptive identification of the antibody contained in the specimen. One of the common screening tests is enzyme linked immunosorbent assay ELISA . The current ELISA tests for the diagnosis of HIV infection are based on antigens, including p24 which is part of the Gag protein, and gp41 and gp120 which are part of the envelope protein. The fusion of gp41 immunodominant region peptide of 4 HIV 1 subtypes tetraIDR env with BSA has been done to develope recombinant antigen based ELISA assays. The BSA tIDR gene is inserted into the pQE80L expression vector and the cloning successfully produced pQE80 BSA tIDR plasmid. Expression of recombinant protein in E.coli bacteria was performed to produce BSA tIDR and tIDR proteins. The protein expression was successfully performed at 37 C, with 1 mM IPTG induction for 4 hours. BSA tIDR protein has not been successfully purified by NiNTA method. The western blot test was performed on BSA tIDR expression proteins, purified tIDR, and BSA alone. The

western blot test with serum HIV 1 positive patients gave positive results on BSA tIDR and tIDR proteins.