Universitas Indonesia Library >> UI - Tesis Membership

Pengembangan uji diagnostik recombinant immunoblot assay (RIBA) HIV berbasis subtipe HIV-1 yang ditemukan di Indonesia = Development of recombinant immunoblot assay (RIBA) diagnostic test based on circulating subtypes of HIV- 1 in Indonesia / Jeanne Elvia Christian

Jeanne Elvia Christian, author

Deskripsi Lengkap: https://lib.ui.ac.id/detail?id=20446600&lokasi=lokal

---

Abstrak

ABSTRAK
Uji Western blot masih menjadi gold standard untuk konfirmasi diagnosis infeksi HIV yang memerlukan ketiga protein utama HIV, yaitu env, pol, dan gag. Kekurangan pada uji ini yaitu kemungkinan adanya kontaminasi dengan protein selular manusia serta pembuatannya yang relatif mahal. Selain itu, diversitas HIV-1 yang tinggi menyebabkan uji western blot menjadi kurang sensiftif. Penggunaan antigen rekombinan yang imunodominan dan lestari menjadi alternatif lain. Uji RIBA Recombinant Immunoblot Assay pada penelitian ini menggunakan antigen rekombinan dari keempat subtipe HIV-1 yang dominan di Indonesia, yaitu subtipe CRF01_AE, B, CRF02_AG, dan C. Antigen rekombinan Gag p24 , Pol IDR , Env gp41 IDR diekspresikan pada sistem ekspresi E.coli dan dipurifikasi menggunakan kromatografi Ni-NTA. Antigen rekombinan yang telah dimurnikan dilihat reaktivitasnya terhadap sampel serum pasien dengan HIV-AIDS sebanyak 50 sampel dan non HIV-AIDS 45 sampel. Sebanyak 21 sampel HIV-AIDS dan 3 sampel non HIV-AIDS dilakukan uji menggunakan kit Western blot MP Diagnostics HIV blot 2.2 sebagai perbandingan terhadap uji RIBA yang menggunakan metode Western blot. Hasil perbandingan memperlihatkan hasil uji RIBA memiliki reaktivitas yang lebih baik dibandingkan dengan hasil uji kit MP Diagnostics HIV Blot 2.2 dengan persentase reaktivitas terhadap protein p24 95,2 20/21 , protein Pol 85,7 18/21 , dan protein gp41 100 21/21 . Pada uji RIBA, 5 sampel tidak menunjukkan reaktivitas terhadap antigen rekombinan Pol IDR dan 4 sampel tidak menunjukkan reaktivitas terhadap antigen rekombinan Gag p24 . Seluruh sampel menunjukkan reaktivitasnya terhadap antigen rekombinan Env gp41 IDR . Penelitian mengenai uji RIBA ini dapat dikembangkan untuk uji diagnostik HIV-1 dengan subtipe-subtipe HIV-1 yang banyak ditemukan di Indonesia.
<hr />
ABSTRACT
ern blot test is still the gold standard to confirm the diagnosis of HIV 1 infection. This test requires three core of HIV proteins, i.e., env, pol, and gag. Nevertheless, this test has several disadvantages, mainly in possibility of contamination with human cellular proteins as well as production cost is relatively expensive. In addition, the high diversity of HIV 1 may causes Western blot test to be less sensitive. Another method that can be used to overcome these obstacles is the use of immunodominant region and conserved region of recombinant antigen in the assay, also known as RIBA Recombinant Immunoblot Assay . In this research, recombinant antigens were derived from the four subtypes of HIV 1 that are dominant in Indonesia, which are CRF01 AE subtype, B subtype, CRF02 AG subtype, and C subtype. The recombinant antigens comprises Gag p24 , Pol IDR , Env gp41 IDR . Each of antigens was expressed in E. coli expression system and purified using Ni NTA chromatography. Reactivity test of purified antigen was done against a group

consist 50 serum samples with HIV AIDS and 45 serum samples without HIV AIDS. Twenty one samples with HIV AIDS and 3 samples without non HIV AIDS test were done using Western blot kit MP Diagnostics HIV blot 2.2 too as a comparison toward the RIBA test that using Western blot method. The results showed that RIBA test had better reactivity than kit test with reactivity percentage toward p24 95,2 20 21 , Pol 85,7 18 21 , and gp41 100 21 21 . RIBA test results performed 5 samples with negative reactivity toward recombinant antigens Pol IDR and 4 samples with negative reactivity toward recombinant Gag antigen p24 . All the samples had positive reactivity toward recombinan recombinant antigen Env gp41 IDR . As diagnostic kit, this RIBA test shows broad possibility for development in diagnosis HIV 1 infection especially with HIV 1 subtypes that circulate in Indonesia.