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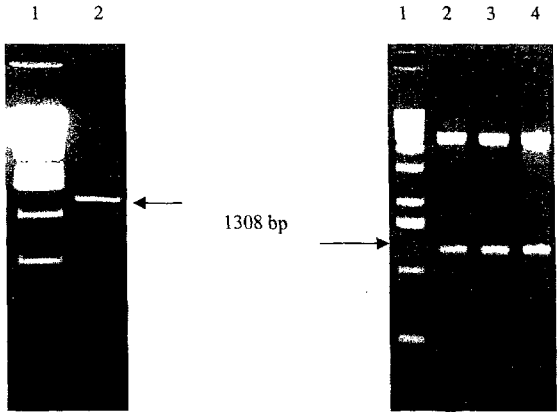
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(54) Title: ORIENTIA TSUTSUGAMUSHI TRUNCATED RECOMBINANT OUTER MENBRANE PROTEIN (r47) AND (r56) VACCINES DIAGNOSTICS AND THERAPEUTICS FOR SCRUB TYPHUS AND HIV INFECTION

PCR product of DNA coding for 47-kDa protein and digested plasmids



Lane 1: 1 kb DNA marker
Lane 2: PCR product

Lane 1: 1 kb DNA marker
Lane 2-4: individual colony containing correct insert

(57) Abstract: A scrub typhus vaccine comprising truncated r47 protein and truncated r56 protein is disclosed. Vaccines composed of r56 protein variants are also disclosed. Methods of reducing HIV viral loads using r47 and r56 proteins and antibodies raised against r47 and r56 are also disclosed.

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