HIV-1 Gag p55, useful as HIV protease substrate

05-009　20 μg,　05-010　100 μg

Storage temperature : Ship with dry-ice or ice-pack and store at -20℃ (longer period,-80℃)

Product: Recombinant full-size HIV-1, subtype 1、clone pNL4-3 (Ref 2), expressed in E. coli.

Applications

1) Substrate for the HIV-1 protease activity assay.
2) It can be used in detection of anti-HIV-1 Gag antibody in Western blotting or ELISA. All the anti-HIV-1 Gag antibodies such as anti-p17 antibody, anti-p24 antibody and anti-p15 antibody can be measured at the same time.

Purity: Over 90% by SDS-PAGE (CBB staining)

Protein concentration: 0.5~1.0 mg/ml as determined by BCA method.

Form: 20% glycerol, 20mM Tris-HCl (pH7.5), 50mM NaCl, 10mM mercaptoethanol

Background: HIV-1 Gag p55 is a precursor protein of several proteins that form the core structure of AIDS virus, which are indispensable to their reproduction. This protein is digested by HIV-1 protease, first into intermediate products p41 and p15. Then p41 is digested into matrix protein p17 and capsid protein p24. Protein p15 is further digested into nucleocapsid protein p7, and to p6 and p1 whose functions are unknown (1).

Data Link　GenBank: AAK08483.1　(HIV-1 Gag p55 sequence of pNL4-3)

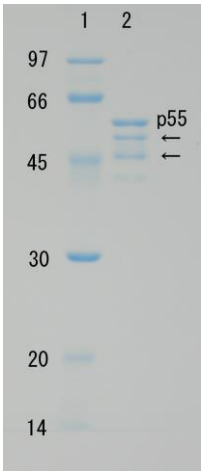

Fig.1 Polyacrylamide gel electrophoresis of HIV-1 p55 protein
The arrows show degradation products.

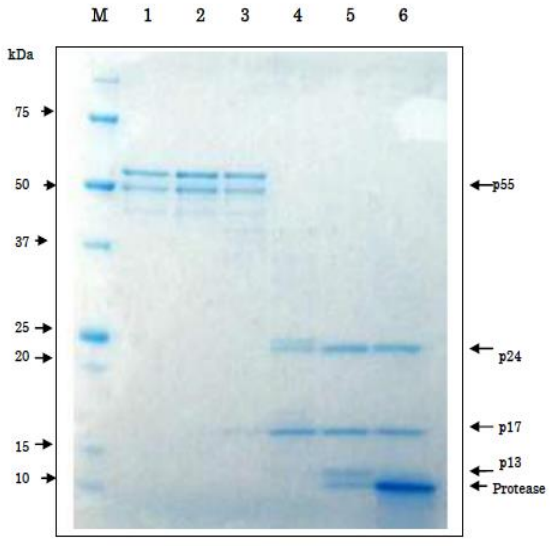

Fig.2 Proteolytic processing of HIV-1 Gag p55 proprotein by HIV-1 protease in vitro
As the substrate, recombinant Gag p55 (1 μg, BioAcademia 05-009) was used in 20 μl reaction volume. The reaction was carried by incubating at 37℃ for 3 h and stopped by

adding SDS-PAGE sample buffer. 1; no protease, 2: 0.16 pg. 3; 1.6 pg. 4; 16 pg 5; 0.16 μg. 6; 1.6 μg protease. Note that two degradation bands are observed in the preparation of p55 substrate. In lane 4, p25 band is visible and in lane 5, p13 band is visible.

References; This product was described and used in Ref.3.

1. Freed EO "HIV-1 gag proteins: diverse functions in the virus life cycle." *Virology* **251**:1-15 (1998) PMID: 9813197
2. Adachi A *et al* "Production of acquired immunodeficiency syndrome-associated retrovirus in human and nonhuman cells transfected with an infectious molecular clone." *J Virol* **59**: 284 -291(1986) PMID: 3016298
3. Saito A *et al* "Overproduction, purification, and diagnostic use of the recombinant HIV-1 Gag proteins, the precursor protein p55 and the processed products p17, p24, and p15." *Microbiol Immunol* **39**:473-483 (1995) PMID: 8569532