

Simian-Human Immunodeficiency Virus (SHIV), KNH1144p4 (7-day harvest)

Catalog No. HRP-20356
Lot No. 70065089

For research use only. Not for use in humans.

Contributor and Manufacturer:

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Product Description:

Virus Classification: *Retroviridae, Lentivirus*

Species: Simian-human immunodeficiency virus

Strain/Isolate: KNH1144p4

Original Source: Simian-human immunodeficiency virus (SHIV), KNH1144, an R5-tropic, clade A chimeric virus, was created by cloning the *env* gene of Kenyan HIV-1 isolate KNH1144 into the proviral backbone of SHIV-1157ipd3N4. The parental infectious molecular clone underwent rapid serial passage through naïve rhesus macaques (RM) and subsequently in immune-depleted RM. Infected blood was used to inoculate non-immune depleted RM, and SHIV-KNH1144p4 was isolated in October 2012 by coculturing with peripheral blood mononuclear cells (PBMC) from a naïve RM. HRP-20356 was harvested after 7 days of infection.^{1,2}

Comments: HRP-20356 is reported to be replication-competent in RM PBMC and is categorized as a tier-2 virus. It is pathogenic *in vivo* in RM, mucosally transmissible and well-suited for repeated, low-dose mucosal challenges. SHIV-KNH1144p4 can be used as a challenge virus in vaccine efficacy studies in nonhuman primates given candidate HIV/AIDS vaccines. The partial genome of SHIV-KNH1144 has been sequenced (GenBank: [AF457066](https://www.ncbi.nlm.nih.gov/nuccore/AF457066)).^{1,2}

Material Provided:

Each vial contains approximately 0.3 mL of supernatant from RM PBMC infected with HRP-20356. The virus titer was reported to be 7.1×10^9 copies/mL, and p27 concentration was 125.7 ng/vial. The virus was harvested and filtered through a 0.45 µm filter.^{1,2}

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

HRP-20356 was packaged aseptically in plastic cryovials. The product is provided frozen and should be stored at -100°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Host: RM PBMC

Growth Medium: Stimulated with RPMI 1640 medium supplemented with concanavalin A (5 µg/mL) for 3 days; maintained in medium supplemented with interleukin-2 (IL-2; 20 U/mL) and TNF-α (10 ng/mL)

Infection: Recommended MOI of 1:10

Incubation: 37°C and 5% CO₂

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Simian-Human Immunodeficiency Virus (SHIV), KNH1144p4 (7-day harvest), HRP-20356.”

Biosafety Level: 2

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

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References:

1. Ruprecht, R., Personal Communication.
2. Zhou, M., et al. "Adaptation of an R5 Simian-Human Immunodeficiency Virus Encoding an HIV Clade A Envelope with or without Ablation of Adaptive Host Immunity: Differential Selection of Viral Mutants." J. Virol. 93 (2019): e02267-18. PubMed: 30760566.

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