

GHOST (3) CXCR4+CCR5+ cell line (NIH AIDS Reagent Program Catalog Number: 3942) (HHMI)

This cell line expresses CXCR4 and CCR5 on surface and also contains an HIV-2 LTR linked to a green fluorescent protein (GFP) gene. CD4, co-receptors and GFP are each under a different selection.

The GHOST(3) cell lines constitute an HIV-1 or HIV-2 indicator cell panel whose individual lines express a specific viral coreceptor molecule in conjunction with human CD4. In brief, the GHOST(3) cell panel was derived from a clone of human osteosarcoma cells which stably express human CD4, HOS.T4neo. HOS.T4neo cells were stably transfected with a Tat-dependent reporter construct consisting of the HIV-2ROD long terminal repeat enhancer-promoter directing the expression of a humanized allele of the green fluorescent protein (GFP). A clone (clone 3) which expressed a low basal level of GFP but which induced a high level of GFP expression in response to HIV-1LAI Tat was isolated. The GFP reporter-containing HOS.T4 neo cells were subsequently stably transduced with retroviral vectors containing different HIV coreceptor molecules, including CCR5, CXCR4, BOB/GPR15, and Bonzo/STRL33.

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