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Technical Data Sheet: Vero.STAT1 KO

ATCC® Number	CCL-81-VHG™
Organism	*Cercopithecus aethiops*, African green monkey
Tissue/Disease Source	kidney
Product Description	This STAT1 knockout Vero cell line was derived from the parental Vero cell line (ATCC® CCL-81™) at ATCC using CRISPR-Cas9 genome editing technology. This cell line carries a homozygous 199 nucleotide deletion spanning the third intron and the fourth exon of the STAT1 gene. This cell line does not express STAT1 protein.
Application	Vero.STAT1 KO is an excellent cell model for virus propagation and viral vaccine production. It exhibits significant increased viral titer and enhanced virus production capability when compared to its parental cell line.

Dengue II viral infection in WT and STAT1 KO Vero

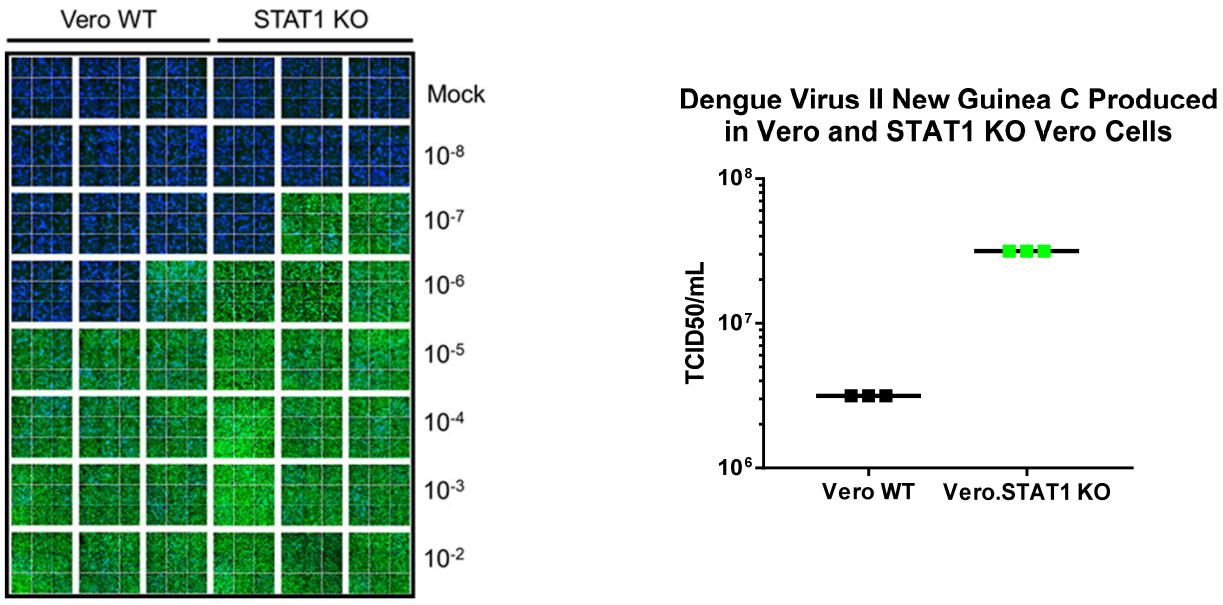

Figure 1. Dengue II New Guinea C virus titer comparison by $TCID_{50}$ measurement. Vero parental cells and Vero.STAT1 KO cells were seeded and infected with Dengue II New Guinea C virus. Viral supernatants were harvested at day 7 post infection, and then tittered by further infecting WT Vero cells in the indicated serial dilutions. Dengue II viruses within the cells were analyzed by immunofluorescence staining and high content microscopy imaging. The 50% tissue culture infective dose ($TCID_{50}$) were also calculated (n=9).

Cell Morphology

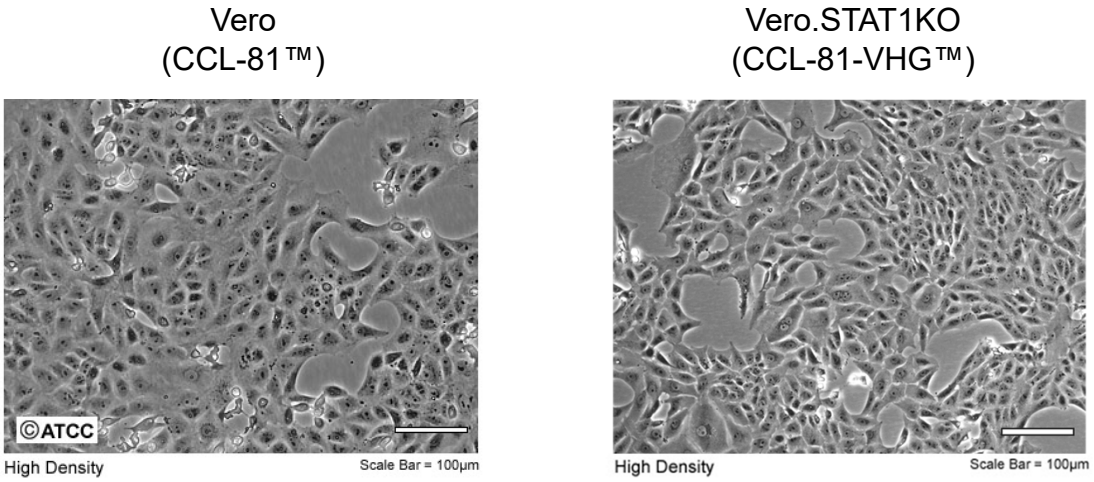

Figure 2. Cell morphology of Vero parental and Vero.STAT1 KO. Cells were maintained in ATCC recommended culture conditions. Cell morphology was observed under microscopy and images were captured by digital camera.

STAT1 knockout

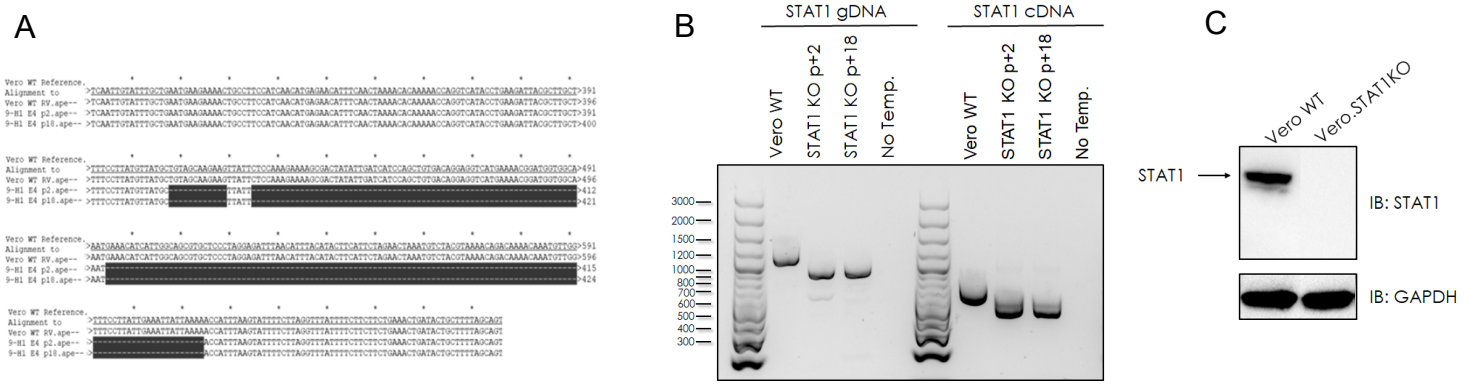

Figure 3. Molecular characterization of STAT1 knockout. (A) Sanger sequencing verified STAT1 KO Vero cell clone has a 199 nucleotide deletion in both chromosomal copies of STAT1. (B) The STAT1 gene PCR products of both genomic DNA and CDNA from low passage and high passage of Vero parental line and Vero. The presence of expected amplicons from passage 2 and passage 18 confirm that the STAT1 KO clone is stable. (C) Western blot analysis corroborates that the STAT1 protein is not expressed within Vero.STAT1 KO cell line.