

Supplementary Materials: Pediatric and Adult High-Grade Glioma Stem Cell Culture Models Are Permissive to Lytic Infection with Parvovirus H-1

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Table S1. Transcriptome analysis of the uninfected H-1PV permissive NCH421k neurosphere culture and the partially permissive, NCHI and resistant NCHR subclones. Genes most significantly over expressed in NCH421k.

Gene	Probe	NCH421K	NCH421I	NCH421R	R-K
FAM49B	217916_s_at	12.347	8.050	3.536	-8.811
B4GALNT1	1555385_at	11.723	4.907	4.621	-7.102
COL4A5	213110_s_at	6.760	4.000	0.000	-6.760
SLITRK4	232636_at	9.450	2.379	2.744	-6.706
SLC26A10	214951_at	10.967	6.219	4.542	-6.425
IFITM3	212203_x_at	8.086	7.615	2.036	-6.050
ASAP1	224791_at	8.466	8.260	3.000	-5.466
LAYN	228080_at	6.810	1.536	1.379	-5.431
NTRK2	221796_at	8.241	5.741	2.868	-5.373
HHIP	230135_at	5.213	3.838	0.000	-5.213
AGAP2	229917_at	7.181	1.536	2.000	-5.181
PLEKHA5	220952_s_at	6.428	3.982	1.433	-4.995
FNDC5	226096_at	6.000	4.446	1.632	-4.368
ARHGEF25	227427_at	10.759	6.986	6.547	-4.212
CTGF	209101_at	8.195	7.061	4.121	-4.074
CHI3L1	209395_at	5.921	5.517	1.926	-3.995
RNF175	236465_at	6.868	6.287	2.907	-3.961
SLC16A7	207057_at	7.173	5.256	3.293	-3.880
DCC	238914_at	7.668	0.000	3.848	-3.820
SPATA9	223840_s_at	4.062	4.420	0.263	-3.799
LOC100131860	1559180_at	4.372	4.053	0.585	-3.787
C21orf62	220543_at	3.916	5.267	0.138	-3.779
NRP1	212298_at	3.766	0.000	0.000	-3.766
KCNS3	205968_at	7.279	5.194	3.561	-3.718
LIN7A	227929_at	5.336	0.000	1.632	-3.704
ACAP3	225529_at	6.435	6.615	2.744	-3.690
NXPH1	232377_at	10.381	7.070	6.717	-3.664
KCNJ2	206765_at	6.282	4.104	2.678	-3.604
CASZ1	243386_at	4.573	3.154	1.000	-3.573
UBALD1	1558976_x_at	4.329	5.233	0.766	-3.564
THSD4	222835_at	7.941	6.604	4.406	-3.535
VWCE	242957_at	6.418	5.423	2.888	-3.530
C14orf39	1561985_at	3.511	2.561	0.000	-3.511
LOC442075	237005_at	5.267	6.903	1.766	-3.501
FOXP4	227120_at	5.558	5.248	2.138	-3.420
ELAVL4	238073_at	8.095	3.711	4.689	-3.406
DRP2	1556627_at	3.365	3.797	0.000	-3.365
UGT8	228956_at	9.403	7.789	6.070	-3.333
PIEZO2	219602_s_at	6.053	4.027	2.787	-3.267

ARHGAP23	226638_at	6.705	6.215	3.446	-3.258
SLC18A1	207074_s_at	5.681	3.573	2.433	-3.248
FMO5	215300_s_at	6.759	3.018	3.536	-3.223
NAP1L2	219368_at	7.101	4.542	3.897	-3.204
NAP1L3	204749_at	8.008	5.289	4.818	-3.191
OCLN	231022_at	6.213	6.213	3.070	-3.143
NCAN	205143_at	10.663	11.079	7.525	-3.138
FCRLA	235400_at	7.348	9.076	4.263	-3.085
PCDH19	227282_at	7.534	7.440	4.459	-3.075
ZFP82	235176_at	6.710	5.621	3.644	-3.066
SLC6A13	237058_x_at	3.322	3.433	0.263	-3.059
COL21A1	208096_s_at	7.168	3.828	4.129	-3.039
MVD	203027_s_at	4.797	5.304	1.766	-3.031
NPW	243110_x_at	8.343	8.372	5.326	-3.018

Genes discussed in the text are indicated in red.

Table S2. Gene expression analysis of the uninfected H-1PV permissive NCH421k neurosphere culture and the partially permissive, NCHI and resistant NCHR subclones. Genes most significantly over expressed in NCH421R.

Gene	Probe	NCH421K *	NCH421I	NCH421R *	R/-K *
CTHRC1	225681_at	1.632	11.146	11.739	10.107
RPS4Y1	201909_at	3.755	2.036	12.212	8.457
EIF1AY	204409_s_at	1.722	1.807	9.589	7.867
USP9Y	228492_at	0.379	2.170	7.877	7.498
DDX3Y	205000_at	3.087	3.278	10.350	7.263
DPYD	204646_at	1.379	5.752	8.519	7.140
LPAR3	231192_at	0.000	0.000	7.081	7.081
UTY	208067_x_at	0.766	1.000	7.489	6.724
PNMAL1	218824_at	3.263	9.139	9.951	6.688
LPAR6	218589_at	0.000	2.963	6.594	6.594
S100A10	200872_at	2.322	6.562	8.908	6.586
BEND7	227341_at	0.000	6.096	6.438	6.438
GAGE3	207663_x_at	1.070	2.848	7.402	6.331
FNDC7	240837_at	1.322	2.233	7.194	5.872
MAGEA10	210295_at	0.926	0.138	6.796	5.870
CA12	214164_x_at	2.828	5.070	8.663	5.835
STEAP2	225871_at	1.632	6.966	7.384	5.751
TP53INP1	225912_at	0.000	3.472	5.618	5.618
POSTN	210809_s_at	0.263	0.263	5.860	5.597
NLGN4Y	207703_at	2.828	3.170	8.392	5.564
SELM	226051_at	0.000	1.632	5.495	5.495
RBPMS2	228802_at	0.138	0.000	5.618	5.480
HS3ST3A1	219985_at	0.000	5.365	5.426	5.426
TXLNG2P	236694_at	2.888	2.202	8.176	5.288
FAM149A	214889_at	0.000	3.818	5.282	5.282
GRTP1	229377_at	0.138	2.070	5.361	5.224
TRIM38	203568_s_at	1.138	3.689	6.311	5.174
ZDHHC4	220261_s_at	1.379	6.815	6.550	5.171
KDM5D	206700_s_at	2.138	3.138	7.296	5.158
NRTN	210683_at	0.138	3.350	5.282	5.144
SPP1	209875_s_at	7.371	10.076	12.441	5.071
FAM133A	231131_at	0.926	7.261	5.993	5.067

KDELR3	204017_at	5.340	5.845	10.388	5.048
TCL6	219840_s_at	0.000	2.170	4.863	4.863
EFCAB4B	228752_at	1.202	4.678	6.057	4.856
KIAA1456	239297_at	1.000	4.459	5.820	4.820
ZFY	230760_at	2.485	1.322	7.282	4.796
KCNJ4	208359_s_at	1.926	4.027	6.688	4.762
ZNF441	1553193_at	0.000	2.293	4.684	4.684
TGFB1	203085_s_at	0.000	4.365	4.667	4.667
S100A11	200660_at	0.926	4.892	5.533	4.607
GAGE1	208283_at	1.585	0.678	6.162	4.577
PELI3	235431_s_at	1.485	4.888	5.993	4.508
HSD17B6	205700_at	2.585	5.888	7.003	4.418
SPARCL1	200795_at	8.284	11.656	12.655	4.371
BGN	213905_x_at	1.766	1.632	6.094	4.328
EPHX4	239579_at	2.848	6.684	7.171	4.323
AFF3	227198_at	2.263	5.805	6.567	4.304
SOSTDC1	213456_at	2.459	4.776	6.713	4.253
EFNA2	238956_at	1.848	1.263	6.036	4.188
SLC47A1	219525_at	3.632	8.086	7.806	4.174
DOCK6	221794_at	1.322	3.733	5.485	4.163
HDHD3	221256_s_at	1.202	3.766	5.274	4.073
KRTAP19-3	240967_at	0.585	3.511	4.615	4.030
GRAMD3	218706_s_at	1.585	0.000	5.615	4.030
CORO2A	227177_at	1.585	3.776	5.591	4.006
TBX1	236926_at	2.848	6.451	6.777	3.929
HFM1	241469_at	0.000	3.828	3.907	3.907
APOBEC3A	210873_x_at	0.000	2.700	3.888	3.888
KLK15	221462_x_at	0.138	2.828	4.018	3.880
C3orf18	219114_at	1.202	4.498	5.040	3.838
IL13RA2	206172_at	0.000	1.678	3.818	3.818
TENM4	213273_at	2.722	6.198	6.531	3.809
PROCR	203650_at	4.365	7.007	8.170	3.805
GYPC	202947_s_at	3.561	6.492	7.349	3.788
MPPED2	205413_at	4.973	8.243	8.760	3.788
MFAP4	212713_at	2.848	6.914	6.634	3.786
FABP6	210445_at	4.706	6.489	8.487	3.781
TRIM5	210705_s_at	3.472	5.703	7.252	3.779
FAM105A	219694_at	2.170	3.365	5.897	3.727
LOC100270680	1561232_at	2.744	4.561	6.471	3.727
PCSK1	205825_at	1.485	3.868	5.198	3.712
CCDC71L	226756_at	4.365	5.443	8.075	3.710
SLITRK6	232481_s_at	4.154	5.202	7.857	3.703
SNX29P2	214712_at	0.263	3.755	3.963	3.700
HERC5	219863_at	3.121	6.977	6.819	3.698
PCDHGA1	211880_x_at	0.379	1.322	4.070	3.692
EDNRB	204273_at	5.840	7.492	9.522	3.681
EBF3	227242_s_at	0.000	4.225	3.678	3.678
SUSD5	214954_at	5.443	9.332	9.117	3.674
GRIP1	235957_at	2.536	6.320	6.209	3.673
RBPMS	209487_at	2.585	5.970	6.248	3.663
EMILIN1	204163_at	1.070	5.773	4.706	3.636
MFI2	235911_at	2.293	2.433	5.916	3.624

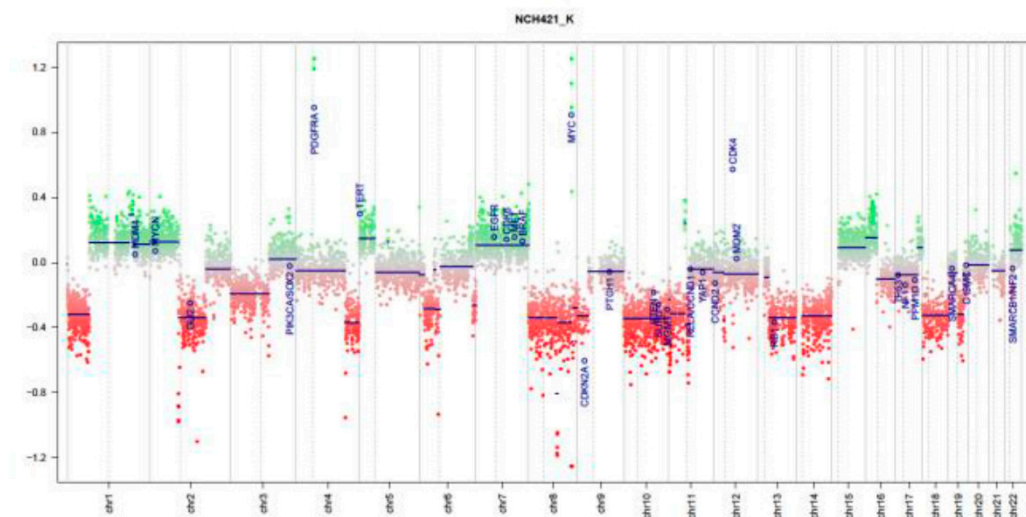
PLA2G7	206214_at	2.070	3.170	5.684	3.613
CD84	211189_x_at	0.379	4.661	3.991	3.612
GPR158	232195_at	2.406	4.285	5.977	3.571
FCGRT	218831_s_at	3.963	5.453	7.534	3.570
ELK3	221773_at	5.372	7.347	8.917	3.545
CD24	216379_x_at	5.567	9.992	9.102	3.535
C1S	208747_s_at	1.000	3.018	4.524	3.524
PERP	222392_x_at	6.211	7.214	9.730	3.519
CTSL1P8	1563445_x_at	0.766	3.926	4.271	3.505
CLMP	228082_at	1.202	2.000	4.700	3.499
DAND5	1562772_a_at	0.766	4.615	4.233	3.467
DNASE1L3	205554_s_at	0.138	3.446	3.585	3.447
HSPA6	213418_at	4.945	4.744	8.388	3.443
TMEM47	209656_s_at	0.379	0.000	3.818	3.439
ATP1A1OS	236623_at	1.138	2.433	4.573	3.435
PDLIM1	208690_s_at	3.700	5.855	7.135	3.435
SLC38A5	234973_at	3.036	7.918	6.461	3.425
ZNF204P	214823_at	0.848	3.263	4.271	3.423
PDE1C	236344_at	4.113	4.926	7.524	3.411
ANXA4	201301_s_at	5.198	7.212	8.597	3.400
TMEM159	213272_s_at	3.722	6.178	7.122	3.400
OLFM3	1554526_at	2.104	4.760	5.495	3.391
TPTE	220205_at	0.138	0.678	3.524	3.386
TLR3	206271_at	1.379	4.385	4.760	3.382
PTGIS	208131_s_at	3.878	5.443	7.248	3.370
ATP1B2	204311_at	3.170	4.644	6.525	3.355
TNFSF13B	223502_s_at	3.121	1.536	6.472	3.351
FAM71E1	229289_at	1.766	3.170	5.113	3.347
LOC100507376	229189_s_at	1.963	4.070	5.307	3.344
MGP	202291_s_at	2.982	0.000	6.318	3.336
LOC153682	232794_at	0.000	4.170	3.336	3.336
AS3MT	223652_at	2.104	3.776	5.436	3.332
ZNF479	1555367_at	1.202	2.655	4.511	3.309
LOC100506190	217625_x_at	2.104	4.597	5.406	3.302
TTY15	214983_at	2.868	3.524	6.154	3.286
FAM134B	218532_s_at	5.389	5.555	8.662	3.273
CCDC113	222890_at	3.170	5.166	6.440	3.270
PLAC9	227419_x_at	0.379	1.070	3.644	3.265
PSMD5	203447_at	2.963	1.263	6.227	3.263
FBLN1	202994_s_at	3.379	5.667	6.641	3.262
TSPAN31	203227_s_at	9.000	9.066	12.243	3.243
HSPB1	201841_s_at	5.263	7.940	8.495	3.232
BAG3	217911_s_at	5.517	7.811	8.734	3.216
GPR75	220481_at	0.926	3.733	4.129	3.203
SLC4A4	203908_at	4.591	4.548	7.765	3.174
MROH1	1565653_at	0.000	1.000	3.170	3.170
ACSM2A	244723_at	1.848	2.609	5.005	3.157
VTCN1	219768_at	1.000	0.926	4.146	3.146
SMOC2	223235_s_at	2.632	0.138	5.768	3.136
MARCH1	235385_at	3.233	1.138	6.368	3.135
TRIM68	219405_at	1.722	4.129	4.843	3.121
SLC43A3	213113_s_at	4.379	7.892	7.497	3.119

STOM	201061_s_at	6.170	7.756	9.286	3.116
DLX6	242940_x_at	4.954	4.485	8.053	3.098
RGS1	216834_at	0.379	5.687	3.472	3.094
IFT27	205037_at	2.926	5.022	6.018	3.092
PQLC3	225579_at	3.498	3.561	6.588	3.090
DSG2	217901_at	5.731	9.590	8.793	3.062
LOC728558	1560352_at	1.322	2.888	4.379	3.057
CD44	212063_at	3.087	7.143	6.138	3.050
GABRB1	207010_at	3.186	4.293	6.208	3.022
CSF1	209716_at	3.053	5.358	6.075	3.022
FAM213A	228155_at	7.357	10.850	10.372	3.015
ALDH1L2	231202_at	4.162	6.583	7.171	3.009

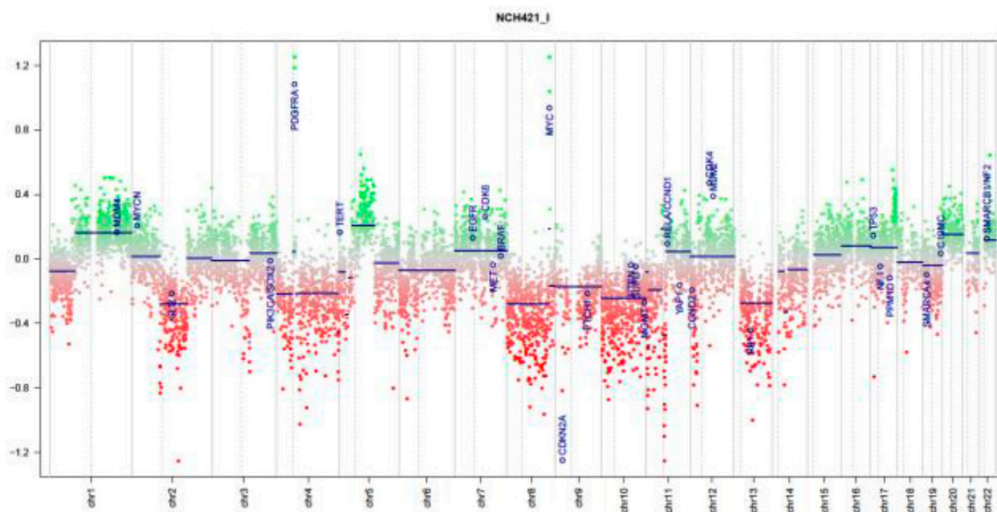
Genes discussed in the text are indicated in red.

Figure S1. Copy-number aberrations in the three NCH421 clones. Data presented for NCH421k (A) and the subclones NCH421I (B) and NCH421R (C) were obtained based on the Illumina HumanMethylation450 BeadChip assay.

(A)



(B)



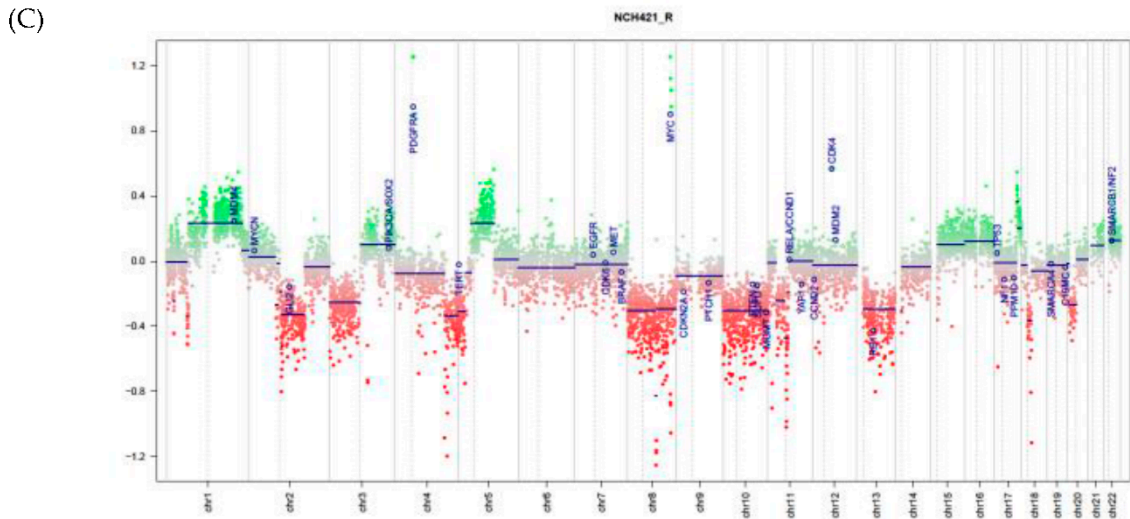


Figure S2. Expression levels of the viral proteins. NS1, VP1 and VP2 in H-1 PV infected neurospheres were measured in HGG neurosphere cultures by Western blot analysis. Cultures were analyzed at indicated days post infection (dpi) with H-1PV at concentrations indicated.

