A

Type	GPS	WGBS
Reads used for call SNVs	Read2	Read1+Read2
Number of Reads	375M	375M
Bioinfomatic tool	VarScan (v2.3.9)	BISCUIT(v0.2.2)
Detected SNVs	127,722	82,498
SNVs overlapped with dbSNP database	126,099	45,604
Percentage	98.7%	55.3%

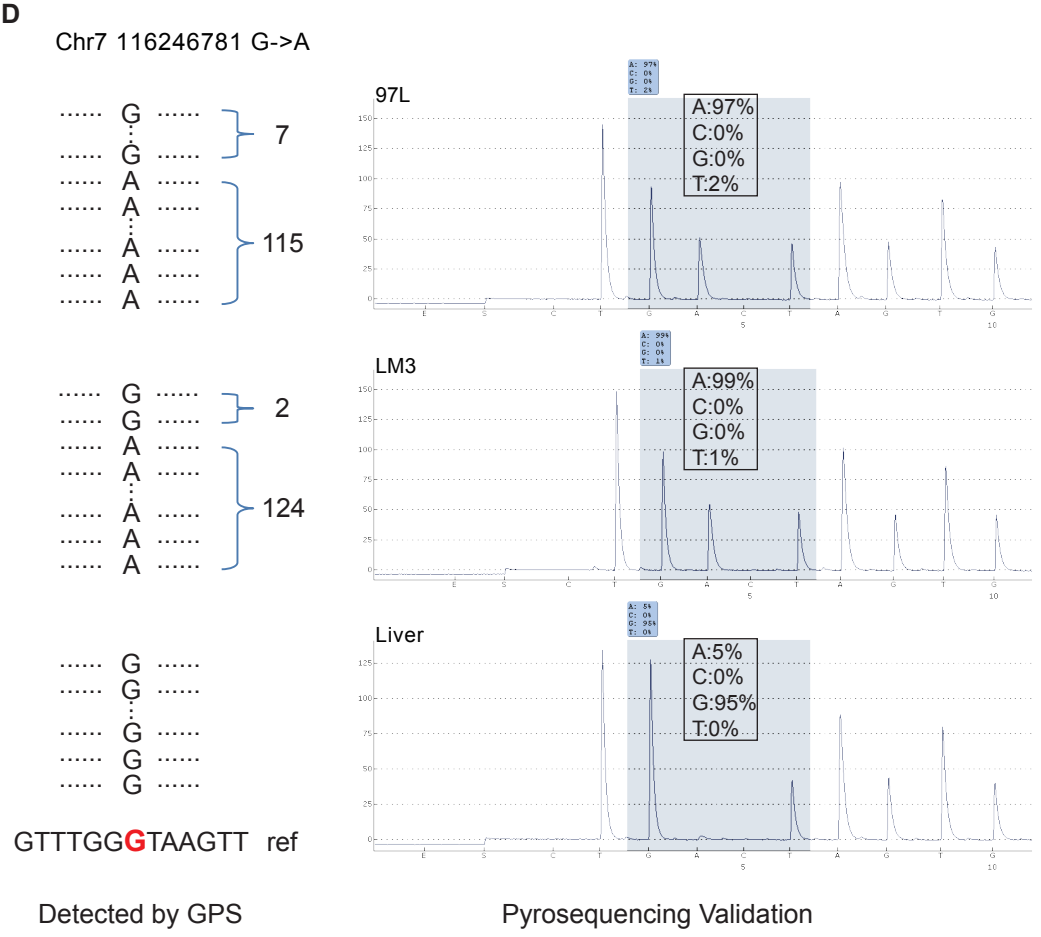
B

GPS sample	Liver	97L	LM3	Primary liver cancer
Variants detected	2,296,462	1,368,159	901,371	737,315
Variants overlapped with dbSNP database	2,098,262	1,200,106	770,625	603,434
Potential mutants	198,200	168,053	130,746	133,881

C

	Variant Frequency								
Detected loci located in *CAV2*	Chr7 116246781 G->A			Chr7 116146802 T->C			Chr7 116146837 A->T		
Sample	Liver	97L	LM3	Liver	97L	LM3	Liver	97L	LM3
Detected by GPS	Not Found	94%	98%	Not Found	61%	62%	Not Found	64%	65%
Verified by pyro-sequencing	5%	97%	99%	2%	61%	61%	17%	79%	83%

D



Supplementary Figure S4. DNA variants including SNPs and mutations detected by GPS.

(A) Single nucleotide variants detected by GPS and WGBS, respectively. **(B)** GPS-detected variants within dbSNP database and potential mutants which are not observed in SNP database in Liver and hepatoma cells. **(C)** Three potential mutants detected by GPS in 97L and LM3, which are located in *CAV2*, a lung-related gene. **(D)** G to A mutation (Chr7 116246781 G->A) validated by bisulfite pyrosequencing.