

	E6	E7	E1	E2	E4	E5	NCR2	L2	L1	URR		
	1111122333355	667	89334668801237	799111123344446666	334444	8890	11111	12233356666899011222335	567889911223334455666770	0111223333444556666778	111	
	2233729245704	274	98886051758432	268344622734674799	273467	2543	01223	916048925691899040467398	8938913444502593703444340	95896913891182313671571123678999000	111	
	4716995616083	858	48364916225798	870127956711507725	671150	1685	97572	7544545473609942162559344	495842949953968100226737	460816532418015846249835636462125348	111	
HPV35 [REF]A1	ATCTCTAATGGAG	TTG	AGTTAACGTTGTAT	TCCACTCGGGCTACGAG	GGCTAC	ATTC	TTTTC	CGAGTAAAGCTAGGTA	CTCGCTC	CCGGGAGGAAAGCA	TTCTTTGAAA	ACCGAGAGGA-AT-TTCTCTACCAGCGAGAGA-TG
HPV35 [QV19083]A1
HPV35 [QV24067]A1
HPV35 [QV19086]A1
HPV35 [QV24860]A1
HPV35 [Z141]A1
HPV35 [Z049]A1
HPV35 [Rw632]A1
HPV35 [QV28721]A1
HPV35 [QV24366]A1
HPV35 [IN221713]A1
HPV35 [BF266]A1
HPV35 [Rw807]A1
HPV35 [Rw862]A1
HPV35 [Rw656]A2
HPV35 [BF313]A2
HPV35 [BF223]A2
HPV35 [IN272089]A2
HPV35 [BF314]A2
HPV35 [BF025]A2
HPV35 [Rw128]A2
HPV35 [Z147]A2
HPV35 [QV29782]A2
HPV35 [QV31639]A2

	E6	E7	E1	E2	E4	E5	NCR2	L2	L1	URR	
	2 778 1	4 2 6	1112 3 4 46 6 111 12222223 33	4 92 288444 70244551 22	55 1	35	2 2	66 3 5568	1 2 3333	8 1 44	33
HPV35 [REF]A1	H I W R Y E	D H D E I E V K F T S I D I T E R H L Y P A N D	P T D L	R V N D T S D T L	A D	S S					
HPV35 [QV19083]A1
HPV35 [QV24067]A1
HPV35 [QV19086]A1
HPV35 [QV24860]A1
HPV35 [Z141]A1
HPV35 [Z049]A1
HPV35 [Rw632]A1
HPV35 [QV28721]A1
HPV35 [QV24366]A1
HPV35 [IN221713]A1
HPV35 [BF266]A1
HPV35 [Rw807]A1
HPV35 [Rw862]A1
HPV35 [Rw656]A2
HPV35 [BF313]A2
HPV35 [BF223]A2
HPV35 [IN272089]A2
HPV35 [BF314]A2
HPV35 [BF025]A2
HPV35 [Rw128]A2
HPV35 [Z147]A2
HPV35 [QV29782]A2
HPV35 [QV31639]A2

Note:
1 deletion of 3 bp between sites nt. 4109 and 4111 within the NCR2 region;
2 deletion of 11 bp between sites 7198 and 7208 within the URR region;
3 insertion of 16 bp (TTTACTCTCAATTTG) between sites 7411 and 7412 within the URR region;
4 insertion of 16 bp (TCTTACTCTCAATTTG) between sites 7411 and 7412 within the URR region;
5 insertion of 29 bp (TGTGTTAGTGCATTCCTTCAATTTG) between sites 7411 and 7412 within the URR region;
6 insertion of 20 bp (CACACACTTAACTCTTGTG) between sites 7521 and 7522 within the URR region;
7 deletion of 9 bp between sites 7636 and 7644 within the URR region;
8 insertion of 2 bp (GG) between sites 103 and 104 within the URR region;

Genomic coordinates and sequence data for HPV52. Columns include R6, R7, R1, E2, R4, NCRI, and R5. Sequences are shown for various regions such as REF1A, Qc32116A, Qc26382A, Qc23939A, Qc32479A, R6w46A, E2096A, Qc17972A, Qc17844A, Qc15145A, Qc03594B1, Qc05851B1, IN181391B2, Qc141070B2, Qc035867C1, Qc006151C2, Qc12371D, Qc02575D, Qc02124D, Qc18359D, and Qc07294D.

Sequence alignment and coordinates for HPV52. Columns include R6, R7, R1, E2, R4, NCRI, and R5. This table shows the alignment of sequences from different regions, highlighting differences and conserved areas. Coordinates are listed above each sequence.

Sequence alignment and coordinates for HPV52, labeled as NCR2. Columns include L2, L1, and URR. This table shows the alignment of sequences from different regions, highlighting differences and conserved areas. Coordinates are listed above each sequence.

HPV52 (REF1A) sequence data and mutation notes. Includes sequence coordinates and a list of mutations with their positions and descriptions. Mutations include insertions and deletions within the NCR2 region and URR region.

D

E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42	
1111122233333334	5566677777777778	889999990000011	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111	1111111111111111		
348904460678904	591334666778900045	792424011500181302	882222214488046901	558915891481439100	448932616415200970274	1010111391447880953486	416253678903816188805567072	1631412765142	1618988559072176	6930	092788903874311	218628	479024	70284662058	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT	CTCCAGCTTAAAT
HPV981RF1A1	HPV981b0471A1	HPV981b0101A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1		

E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42		
1	34	8899	9	124	66	677	77	22	3	55566779	2	677	77	88	22	2	3333	333	4	44	55	55566	66	66	1	1	1	2222	2	22	2	222233	3	33				
HPV981RF1A1	HPV981b0471A1	HPV981b0101A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1			

E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42
4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	4444444444444444	
HPV981RF1A1	HPV981b0471A1	HPV981b0101A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	

E6	E7	E8	E9	E10	E11	E12	E13	E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	E39	E40	E41	E42
9	1	3	11	1	1	1	11	1	1111	2	2	3	3	33	333	3333	444	4	4444	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
HPV981RF1A1	HPV981b0471A1	HPV981b0101A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	HPV981b01741A1	HPV981b01441A1	HPV981b01011A1	

1 deletion of 3 bp between nt. 3527 and 3529 within the E2 ORF;
 1 deletion of 3 bp between nt. 3528 and 3529 within the E4 ORF;
 1 deletion of 7 bp between nt. 1166 and 1172 within the UR region;
 1 deletion of nt. 1198 and 1199 within the UR region;
 5 insertion of 12 bp between nt. 7278 and 7280 within the UR region.

