HOR S1C1/5/19H1L in chromosomes: 1, 5, and 19

		1/5/	131		III C	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	IIIO.	3011103.	1, J, an	u 13				
Variant	#1 c	of HC	DR S	1C1/	5/19	H1L	in G	J212203.	1		S1C1/5/19H1L.5	Stru	ctural variants of HOR S1C1/5	/19H1L in
Mon	1	2	3	4	5	6					S1C1/5/19H1L 1	GJ2	212203.1	
Туре	А	В	А	В	А	В				ų	STONS/ISHTE.T	Var	Order of monomers	Number of
Class	J1	J2	J1	J2	J1	J2					S1C1/5/19H1L.3	#		copies
Num	1	2	3	4	5	6					S1C1/5/10U11 2	1	1 2 3 4 5 6	362
											STGT/S/T9HTL.2	2	1 2 3/5 6/4 5 6	149
Variant	#2 c	of HC	DR S	1C1/	5/19	H1L	in G	J212203.	1		S1C1/5/19H1L.4	3	1 2 3 4 5 2/6	118
Mon	1	2	3	4	5	6			0.00	4	C1 C1/E/10U1LE	4	1 2 3 6/4 5 6	73
Туре	А	В	А	В	А	В			-0.02		STC1/5/19HTL.0	5	1 2/4 5 6/4 5 6	42
Class	J1	J2	J1	J2	J1	J2				,c	1	6	1 2 3/5 6/4 5 2/6	40
Num	1	2	3/5	6/4	5	6					=	7	1 2 3 4 5 6/4 5 6	35
										1173	- 1	8	1 2 5/3 4 5 6	33
Variant	#3 c	of HC	DR S	1C1/	5/19	H1L	in G	J212203.	1			9	1 2 5 6/4 5 6	28
Mon	1	2	3	4	5	6				[<u></u> 5/	- _{3/1} _	10	1 2/4 5 6	26
Туре	А	В	А	В	А	В					- 15/1 - 1	11	1 2 3 4 5 6/4 5/1 2 3 4 5 6	22
Class	J1	J2	J1	J2	J1	J2					3 1 7 3	12	1 2/4 5/3 4 5 6	22
Num	1	2	3	4	5	2/6					5/3	13	1 2 3 6/4 5 2/6	17
										f <u>=</u>		14	1 2 3 4 5 6/4 5 2/6	16
Variant	#4 c	of HC	DR S	1C1/	5/19	H1L	in G	J212203.	1			15	1 2 3/5 4 5 6	16
Mon	1	2	3	4	5	6						16	1 2/4 5 6/4 5 2/6	16
Туре	А	В	А	В	А	В					5	17	1 2/4 5 2/6	12
Class	J1	J2	J1	J2	J1	J2						18	1 2 5/3 4 5 2/6	12
Num	1	2	3	6/4	5	6						19	1 2 3 4 5 2/4 5 6	10
												20	1 2 5 6/4 5 2/6	10
Variant	#5 c	of HC	DR S	1C1/	5/19	H1L	in G	J212203.	1		7	21	1 2 3 4 5 6/4	9
Mon	1	2	3	4	5	6					3/5	22	1 2 3/1 2/4 5 6	8
Туре	А	В	А	В	А	В					_ _	23	1 2 3/1 2/4 5 2/6	7
Class	J1	J2	J1	J2	J1	J2				<u>_L</u>		24	1 2 3 4 5 6/4 5/1 2 3 4 5 2/6	7
Num	1	2/4	5	6/4	5	6					_ 2	25	1 2 3 4 S1C16H1L.5 6	7
											=	26	1 2/4 5/3 4 5 2/6	7
Variant	#6 c	of HC	DR S	1C1/	5/19	H1L	in G	J212203.	1]2/4	27	1 2 5/3 4 5 6/4 5 6	7
Mon	1	2	3	4	5	6]2/6	28	1 2/6	7
Туре	A	В	A	В	A	В					- 7	29	1 2 3 4 5 6 1/5 2 3 4 5 6	6
Class	J1	J2	J1	J2	J1	J2					- 4	30	1 2 3 4 5 6/4 5 6/4 5 6	6
Num	1	2	3/5	6/4	5	2/6					- 4/g _{1/2}	31	1 2 3/5 4 5 2/6	6
											6/4	32	1 2 3/5 6/4 5 6/4 5/1 2 3 4 5 6	6
Variant	#/ 0	of HC	JR S	1C1/	5/19	H1L	in G.	J212203.	1 —			33	1 2 3/5 6/4 5 6/4 5 6	6
Won	1	2	3	4	5	6	1	8			6	34	1 2 5/3 6/4 5 6	6
Туре	A	B	A	B	A	B	A	В			٦ ٦	35	1 2 3/5 2/4 5 6	5
Class	J1	J2	J1	J2	J1	J2	J1	J2				36	1 2 3/5 6/4 5 6/4	5
NUM	T	2	3	4	5	6/4	5	6		┤╟╠══╴	6/4	37	1 2 3 6/4 5 6/4 5 6	5
Voie	#0 -		ם חו	104		1141	in 0	1040000	4 1 1			38	1 2/4 3/3 0/4 5 0	5
variant	#ð (א ור ר	אר 5 י	101/	5/19	n IL c	in G	JZ IZZU3.	0.02	L6/2	L	39	1203400	5
	1	2	ۍ ۸	4 P	C A	ю Р						40 40	1 2 3 4/2 3 0 1 6/3 2 4 5 6	4
Close	A 14	B	A	D	A 14	B						41 40	10/20400	2
Num	JI	J2 0	JT	J2 1	J I	JZ F						42	1234561/561/2456	1
num	1	2	0/3	4	5	0						43	1234301/301/3430	1

Full map and stats

Variant #9 of HOR S1C1/5/19H1L	in GJ212203.1
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Variant #10 of HOR S1C1/5/19H1L in GJ212203.1

6

Variant #11 of HOR S1C1/5/19H1L in GJ212203.1

11 12

J2

J2 J1

3 4 5 6

J2 J1 J2 J1

5 6/4 5/1 2

Mon	1	2	3	4	5	6	
Туре	А	Х	А	В	А	В	
Class	J1	J2	J1	J2	J1	J2	
Num	1	2	5	6/4	5	6	

А В

J2 J1 J2 5

Mon

Туре

Num

Mon

Туре

Class

Num

Class J1

1 2 3 4

А

1 2/4

1 2 3 4 5 6 7 8 9 10

А Х А В А В А В А В А В

J1

1

В

J2

2 3 4

J1

Note: (1) Unusually polymorphic HOR structure may be due to mixing of slightly different sequences from 3 chromosomes. Low copy HOR variants are shown without PERCON schemes just to demonstrate identified hybrids. (2) Sometimes hybrids occur in hybrid context and sometimes in a context of a basic monomer (see Supplementary note 1 for discussion).

Variant #17 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4
Туре	А	В	А	В
Class	J1	J2	J1	J2
Num	1	2/4	5	2/6

Variant #18 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6
Туре	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2
Num	1	2	5/3	4	5	2/6

Variant #19 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6	7	8
Туре	А	В	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2	J1	J2
Num	1	2	3	4	5	2/4	5	6

Variant #20 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6
Туре	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2
Num	1	2	5	6/4	5	2/6

J2 J1

Variant #12 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6
Туре	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2
Num	1	2/4	5/3	4	5	6

Variant #13 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6	
Туре	А	В	А	В	А	В	
Class	J1	J2	J1	J2	J1	J2	
Num	1	2	3	6/4	5	2/6	

Variant #14 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6	7	8
Туре	А	В	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2	J1	J2
Num	1	2	3	4	5	6/4	5	2/6

Variant #15 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6	
Туре	А	В	А	В	А	В	
Class	J1	J2	J1	J2	J1	J2	
Num	1	2	3/5	4	5	6	

Variant #16 of HOR S1C1/5/19H1L in GJ212203.1

Mon	1	2	3	4	5	6
Туре	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2
Num	1	2/4	5	6/4	5	2/6

Variant	#44	of HOR S1	C1/5/19H1L in chr1_FP565591.6	Structural variants of HOR	S1C1/5/19H1L in chr1_FP565591.6	
Mon	5	6		Var Order of monomers	Number of	
Туре	А	В		#	copies	
Class	J1	J2		44 5 6/4	70	
Num	5	6/4		Full map and stats		
						

Note: (3) Variant #44 and the statistics below are shown to illustrate the discussion of 5-6/4 dimer in section 1.2.2 of Supplementary Note 1.

Genome-wide statistics of S1C1/5/19H1L.6/4 hybrid (see discussion in Supplementary note 1).

Hybrid S1C1/5/19H1L.6/4 has 1458 copies in the assembly.

It occurs mostly in the variant n/5-6/4-5/m that has 1168 copies (where n=1,3, and m=1,3). Full statistics is provided below.

# Order of monomers Nu	Imber of copies
------------------------	-----------------

1	5 6/4 5	565
2	3/5 6/4 5	340
3	5 6/4 5/1	229
4	1/5 6/4 5	18
5	5 6/4 5/3	9
6	3/5 6/4 5/1	3
7	1/5 6/4 5/1	2
8	3/5 6/4 5/3	2

Also, it occurs in the variant: n/3-6/4-5 that has 210 copies (where n=1,5).

#		Order of monomers	Number of copies
	1	3 6/4 5	179
	2	5/3 6/4 5	30
	3	1/3 6/4 5	1

Also, it occurs in the variant: n/5 6/4 1/m that has 40 copies (where n=3, and m=5).

Order of monomers Number of copies

1	5 6/4 1	35
2	5 6/4 1/5	3
3	3/5 6/4 1/5	2

Also, it occurs in the variant: n/3 6/4 3/m that has 3 copies (where n=5, and m=5).

#		Order of monomers	Number of copies	
	1	3 6/4 3/5		2
	2	5/3 6/4 3/5		1

Also, it occurs in the variant: n/5 6/4 3/m that has 5 copies (where n=3, and m=5).

Order of monomers Number of copies

1	5 6/4 3	2
2	5 6/4 3/5	2
3	3/5 6/4 3	1

Also, it occurs in the variant: n/1 6/4 5/m that has 3 copies (where n=3, and m=1).

Order of monomers Number of copies

1	1 6/4 5	1
2	1 6/4 5/1	1
3	3/1 6/4 5	1

Other variants:

#		Order of monomers Nu	umber of copies	
	1	3 6/4 S1C16H1L.5		3
	2	3/5 6/4 S1C16H1L.5		5
	3	5 6/4 S1C16H1L.5		5
	4	S1C16H1L.5 6/4 5/1		5
	5	S1C16H1L.5 6/4 5		9
	6	S1C16H1L.5 6/4 S1C16H1L.5		1

HOR S1C3H1L in chromosome 3

Variant	#1 c	of HC	R S	1C3	H1I i	n G.	1211	871 ·	1									Stru	ictu
Mon	1	2	3	4		6	7	8	9	10	11	12	13	14	15	16	17	Var	Or
Type	Δ	2 R	Δ	R	Δ	B	Δ	B	Δ	Δ	B	Δ	B	Δ	R	Δ	B	#	•.
Class	.11	.12	.11	.12	.11	.12	.11	.12	.11	Um	.12	.11	.12	.11	.12	.11	.12	1	1 2
Num	1	2	3	1	5	6	7	8	9	10	11	12	13	1/	15	16	17	2	1 2
Num	I	2	5	4	5	0	'	0	9	10		12	15	14	15	10	17	2	1 2
																		1	12
Variant	#2 c	of HC	R S	1C3	H1I i	n G.	1211	871 ·	1									- 1 5	12
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Ŭ	Eu
Type	A	B	A	B	x	B	Å	B	A	A	в	A	B	A	B	A	В		<u>. u</u>
Class	J1	.12	J1	.J2	J1	.12	J1	.12	J1	Um	.12	J1		J1		J1	.12		
Num	1	2	3	4	12/5	6	7	8	9	10	11	12	13	14	15	16	17		
Num		2	Ũ	-	12/0	U	'	Ū	Ŭ	10		12	10	17	10	10	.,		
Variant #3 of HOR S1C3H1L in GJ211871 1																			
Mon	1	2	3	4	5	6	7	8	. 9	10	11	12	13	14	15				
Type	A	- B	A	B	A	B	A	A	B	A	B	Α	B	Α	B				
Class	J1	J2	J1	J2	J1	J2	J1	Um	J2	J1	J2	J1	J2	J1	J2				
Num	1	2	3	4	5/7	8	9	10	11	12	13	14	15	16	17				
	-	_	•	-		-	-												
Variant	#4 c	of HC	R S	1C3	H1L i	n G.	J211	871. ⁻	1										
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Type	А	в	A	в	A	В	А	В	A	В	А	А	В	А	В	A	в	A	В
Class	J1	.]2	J1	.J2	J1	.12	J1	.12	J1	.12	J1	Um	.J2	J1		J1		J1	
Num	1	2	3	4	5	6	5	6	7	8	9	10	11	12	13	14	15	16	17
	•	-	Ũ	•	•	č	Ū	•	•	•	Ū								
Variant	#5 c	of HC	R S	1C3	H1I i	n G.	1211	871 [.]	1										
Mon	1	2		4		6	7	8	9	10	11	12	13	14	15				
	•	-	Ŭ	•	Ũ	Ũ		0	Ŭ		• •				.0				

Туре	А	В	А	В	А	В	А	А	В	А	В	А	В	А	В	
Class	J1	J2	J1	J2	J1	J2	J1	Um	J2	J1	J2	J1	J2	J1	J2	
Num	1	2	3	4	7	8	9	10	11	12	13	14	15	16	17	

Note: (1) Monomers 8-9-10 branch with archaic SF1, others with modern SF1 (Fig. S2a Group1). (2) Hybrid monomer 12/5 is a dramatically different variant of monomer 5, its right half is very similar to monomer 5 and the left part is similar to monomers 12 and 16 (slightly more to 12), but with a lot of own mutations. However, it never occurs in its legitimate context (between monomers 11 and 6), but always in place of monomer 5 (between 4 and 6).

tructural variants of HOR S1C3H1L in GJ211871.1

ar	Order of monomers	Number of copies
1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	544
2	1 2 3 4 12/5 6 7 8 9 10 11 12 13 14 15 16 17	70
3	1 2 3 4 5/7 8 9 10 11 12 13 14 15 16 17	38
4	1 2 3 4 5 6 5 6 7 8 9 10 11 12 13 14 15 16 17	10
5	1 2 3 4 7 8 9 10 11 12 13 14 15 16 17	10

Full map and stats

J2



Variant #1 of HOR S1C3H2 in GJ211866.1



Note: (1) PERCON misclassification of monomer 4 shown as R1 type A instead of type B.







Structural variants of HOR S1C3H2	in GJ211866.1
Var Order of monomers #	Number of copies
1 12345678910	250
2 1 2 S1C3H3.3 4 5 6 7 8 9 10	8
Full map and stats	

Structural variants of HOR S1C3H2 in GJ211867.1 Var Order of monomers Number of

#		copies
1	9/7 8	15
2	9 10/8	7
3	9/7 8/6 7 8	2
4	78	1
5	9	1
6	9 10/6 7 8	1
7	9 10/6 7 8 S1C3H3d.4 8	1
8	9 10/7 8/6 7 8	1
9	9/7 3/10 1/7 8	1
10	9/7 8/10 1/7 8	1
11	9/7 8/6 S1C3H3d.2 10/7 8	1

Full map and stats



Note: (2) RM GJ211867.1 has only monomers 6, 7, 8, 9, 10, 1 or their hybrids. Monomers 10/7 and 1/7 are A/B hybrids.

HOR S1C3H3d in chromosome 3

Variant	#1 c	of HC	R S	1C3ł	H3d i	n ABBA01004655.1
Mon	1	2	3	4	5	
Туре	А	В	А	В	А	
Class	R2	R1	J1	R1	J1	
Num	1	2	3	4	5	

Variant #2 of HOR S1C3H3d in ABBA01004655.1 Mon 1 2 3

Туре	Α	В	Α	
Class	R2	Um	J1	
Num	1	2	5	

Variant #3 of HOR S1C3H3d in ABBA01004655.1

Mon	1	2	3	
Туре	А	В	А	
Class	R2	R1	J1	
Num	1	4	5	



Structural variants of HOR S1C3H3d in ABB	A01004655.1
Var Order of monomers #	Number of copies
1 1 2 3 4 5	61
2 1 2 5	12
3 1 4 5	10

Full map and stats

Notes: (1) In divergent HORs, the statistics of structural variants shown here is not representative due to their ruined structure. View the full map via the link provided.

(2) Forward strand monomer order is shown instead of reverse strand order.

(3) Unstable PERCON classification in various genomic contigs: mon2 - J2/R2/Um, mon4 - J2/R1/Um, mon5 - J1/Um.

HOR	S1C	MH	1d i	n cl	iromo	some) 3	
Variant #1 of HOR S1CMH1d in ABBA01004652.1								
Mon	1	2	3	4				
Туре	А	В	А	В				
Class	R2	Um	J1	R1				
Num	1	2	3	4				
Variant	#3 c	of HO	R S	1CM	H1d in A	BBA0	100465	2.1
Mon	1	2						
Туре	А	В						
Class	R2	J2						
Num	1	2						
Variant	#2 c	of HO	R S	1CM	H1d in A	BBA0	100465	2.1
Mon	1	2	3					
Туре	А	Х	А					
Class	R2	R1	J1					
Num	1	2	3					
Chromosome 6								
Variant	#2 c	of HO	R S	1CM	H1d in F	P3253	349.3	
		~	~					

Mon	1	2	3
Туре	А	U	А
Class	R2	J2	J1
Num	1	2	3

Chromosome 7

Variant #1 of HOR S1CMH1d in AC019063.4

Mon	1	2	3	4	
Туре	А	В	А	Х	
Class	R2	J2	J1	R1	
Num	1	2	3	4	

Chromosome 8

Variant #2 of HOR S1CMH1d in AC144576.3

Mon	1	2	3
Туре	А	В	А
Class	J1	R1	J1
Num	1	2	3



Structural variants of HOR S1CMH1d in ABBA01004652.1

Var Order of monomers Number of copies

1 1 2 3 4 2 1 2 3 1 2 3

Full map and stats

Note: (1) In divergent HORs, the statistics of structural variants shown here is not representative due to their ruined structure. View the full map via the link provided.

(2) Forward strand monomer order is shown instead of reverse strand order.

Structural variants of HOR S1CMH1d in FP325349.3

Var Order of monomers	Number of
#	copies

6

212	3	
Full map	and stats	

Structural variants of HOR S1CMH1d in AC019063.4

Var Order of monomers	Number of
#	copies
1 1 2 3 4	2

1 1 2 3 4 Full map and stats

Structural variants of HOR S1CMH1d in

Var Order of monomers #	Number of copies
2 1 2 3	6
3 1 2	5
4 1 4	3
1 1 2 3 4	2
Full man and state	

Full map and stats

AC144576.3



Variant #3 of HOR S1CMH1d in AC144576.3

Mon	1	2
Туре	А	В
Class	R2	R1
Num	1	2

Mon	1	2	3	4
Туре	А	В	А	А
Class	R2	R1	J1	R2
Num	1	2	3	4

Variant #4 of HOR S1CMH1d in AC144576.3

Mon	1	2	
Туре	А	В	
Class	R2	R1	
Num	1	4	

Chromosome 10

Variant	t #2 c	of HC	DR S	1CMH1d in ABBA01020707.1	Structural variants of HOR S1CMH1d in					
Mon	1	2	3		ABBA01020707.1					
Туре	А	Х	А		Var Order of monomers	Number of				
Class	R2	R1	J1		#	copies				
Num	1	2	3	•	2 1 2 3	4				
					Full map and stats					
Chro	mos	om	e 12							
Variant	t #2 c	of HC	DR S	1CMH1d in AC144535.4	Structural variants of HOR S1CMH1d in					
Mon	1	2	3		AC144535.4					
Туре	А	В	А		Var Order of monomers	Number of				
Class	R2	R1	J1		#	copies				
Num	1	2	3		2 1 2 3	6				
					1 1 2 3 4	6				

Variant #1 of HOR S1CMH1d in AC144535.4

Mon	1	2	3	4	
Туре	А	В	А	В	
Class	R2	R1	J1	R1	
Num	1	2	3	4	

Chromosome 20

Variant #1 of HOR S1CMH1d in chr20_AL358116.7

Mon	1	2	
Туре	А	В	
Class	R2	R1	
Num	1	2	

Structural variants of HOR S1CMH1d in chr20_AL358116.7

Full map and stats

Var #	Order of monomers	Number of copies	
3	12	2	
Full	map and stats		

HOR S1C5pH2 in chromosome 5

Variant #1 of HOR S1C5pH2 in GJ211887.1																	
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Туре	В	А	В	Х	В	А	В	А	U	А	В	А	В	А	В	А	
Class	J2	J1															
Num	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

Structural variants of HOR S1C5pH2 in GJ2	11887.1
Var Order of monomers #	Number of copies
1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	39
2 1 2 3 4 5 6 7 8 9 12 13 14 15 16	4
Full map and stats	



HOR S1C6H1L in chromosome 6

Variant	#1 c	of HC	DR S	1C6I	H1L i	in G.	J211	907.	1									
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Туре	А	В	А	А	В	А	В	А	В	А	В	А	В	А	В	В	А	В
Class	J1	J2	J1	J1	J2	J1	J1	J1	J2	J1	J2	J1	J2	J1	J2	J2	J1	J2
Num	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18



Note: On the tree, monomer 7 is in J2 branch, but PERCON classes it J1. It also branches with S1CMH1.4 (J2, B) in Fig. S2a Group1 tree and matches S1CMH1.4 haplotype (Fig. S1). It is likely a PERCON misclassification.

Structural variants of HOR S1C6H1L in GJ21190	7.1
Var Order of monomers #	Number of copies
1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	402
2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 18	3
Full map and stats	

HOR	S1C	7H 1	IL ir	ı ch	ron	nos	ome	e 7				
Variant	#1 c	of HC	R S	1C7F	H1L i	n GJ	1211	908. ⁻	1		···· S1C7H1L.3 Structural variants of HOR S	1C7H1L in
Mon	1	2	3	4	5	6					GJ211908.1	
Туре	А	В	А	В	А	В					Var Order of monomers	Number of
Class	J1	J2	J1	J2	J1	J2					— S1C7H1L.1	copies
Num	1	2	3	4	5	6					1 123456	2279
											S1C7H1L.2 2 1 2 3 6	52
											3 1 2 3 2 3 4 5 6	45
Variant	#2 c	of HC	R S	1C7H	H1L i	n GJ	J211	908.′	1		4 1 2 3 4 5 2 3 4 5 6	35
Mon	1	2	3	4						-0.02	— S1C7H1L.6 5 1 2 3 4	32
Туре	А	В	А	В							6 1 2 5 6	15
Class	J1	J2	J1	J2							7 1234323456	13
Num	1	2	3	6							Full map and stats	
Variant	#3 c	of HC	R S	1C7ŀ	H1L i	n GJ	1211	908.′	1			
Mon	1	2	3	4	5	6	7	8				
Туре	А	В	А	В	А	В	А	В				
Class	J1	J2	J1	J2	J1	J2	J1	J2				
Num	1	2	3	2	3	4	5	6				
Variant	#4 c	of HC	R S	1C7H	H1L i	n GJ	1211	908.′	1			
Mon	1	2	3	4	5	6	7	8	9	10		
Туре	А	В	А	В	А	В	А	В	А	В		
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2		
Num	1	2	3	4	5	2	3	4	5	6		
Variant	#5 c	of HC	R S	1C7H	H1L i	n GJ	1211	908.′	1			
Mon	1	2	3	4								
Туре	А	В	А	В								
Class	J1	J2	J1	J2								
Num	1	2	3	4								
Variant	#6 c	of HC	R S	1C7F	H1L i	n GJ	1211	908.′	1			
Mon	1	2	3	4								

TypeABABClassJ1J2J1J2Num1256

Variant #7 of HOR S1C7H1L in GJ211908.1

Mon	1	2	3	4	5	6	7	8	9	10
Туре	А	В	А	В	А	В	А	В	А	В
Class	J1	J2								
Num	1	2	3	4	3	2	3	4	5	6

	HOR	S1C10H1L	in chromosome	10
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HOR	S1C	;10F	11L	in c	hro	mo	som	1e 1
Variant	#1 c	of HC	R S	1C10)H1L	. in G	GJ21	1932
Mon	1	2	3	4	5	6	7	8
Туре	А	В	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2	J1	J2
Num	1	2	3	4	5	6	7	8
Variant	#2 c	of HC	RS	1C10)H1L	. in G	J21	1932
Mon	1	2	3	4	5	6		
Туре	А	В	А	В	А	В		
Class	J1	J2	J1	J2	J1	J2		
Num	1	2	3	4/6	7	8		
Variant	#3 d	of HC	RS	1C10)H1L	. in G	J21	1932
Mon	1	2	3	4	5	6		
Туре	А	В	А	В	А	в		
Class	J1	J2	J1	J2	J1	J2		
Num	1	2/4	5	6	7	8		
Variant	#4 c	of HC	RS	1C10)H1L	in G	J21	1932
Mon	1	2	3	4	5	6		
Type	A	B	A	B	A	B		
Class	.11	.12	.11	.12	.11	.12		
Num	1	2	5	6	7	8		
- tann	•	-	Ũ	Ũ		Ũ		
Variant	#5 c	of HC	RS	1C10)H1I	in (1932
Mon	1	2	3	4	5	6		
Type	Δ	B	Δ	R	Δ	B		
Class	11	12	11	12	11	12		
Num	1	2	3/5	J2 6	7	0		
Num	I	2	3/0	0	'	0		
Voriont	#6 /	of LIC	n e	1010	111	in C	104	1022
Mon	400	ר ור ס	л о			. III C	JZI	1932
	1	2	Л	4	5	0 D		
iype	A	В	A	В	A	В		
Class	J1	J2	J1	J2	J1 _	J2		
Num	1	4	5	6	7	8		
				1 G -				
Variant	#7 (ot HC	RS	1010)H1L	. in G	J21	1932
Mon _	1	2	3	4				
Туре	A	B	А	B				
Class	J1	J2	J1	J2				
Num	1	6	7	8				
Variant	#8 c	of HC	RS	1C10)H1L	. in G	J21	1932

Mon	1	2	3	4	5	6
Туре	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2
Num	1	2/4	5/3	4/6	7	8



Structural variants of HOR S1C10H1L in GJ211932.1

Var #	Order of monomers	Number of copies
1	1 2 3 4 5 6 7 8	365
2	1 2 3 4/6 7 8	155
3	1 2/4 5 6 7 8	146
4	1 2 5 6 7 8	140
5	1 2 3/5 6 7 8	123
6	1 4 5 6 7 8	44
7	1678	32
8	1 2/4 5/3 4/6 7 8	20
9	1 2 5 6/8	18
10	1 2 5/3 4/6 7 8	16
11	1 2 3/5 6/2/4 5 6 7 8	14
12	1 2 3 4 5/3 4 5 6 7 8	13
13	1 2/6 7 8	12
14	1 2 3 4 5 6 7 8 1/3 4 5 6 7 8	6
15	1 2 3/1 6 7 8	5
16	1 2 3/5 6 7/5 6/8	4
17	1 2 3 4/2/4 5 6 7 8	3
18	1 2 3/5 6/8 1/7 8	3
19	1 2 3 4/8 7 8	2
20	1 2/4 5 6 7 8 1/5 6/2/4 5 6 7 8	2
21	1 2/8	2
22	1 2 3 4 5 6 7/1 2 5 6 7 8	1
23	1 2 3 4 5 6 7 8 1/3 4 5 6 7 8/2 3 4 5 6 7 8	1
24	12345678/678	1

Full map and stats

Notes: (1) There are two dramatically different variants of monomer 6. (2) Low copy HOR variants are shown to demonstrate identified hybrids.

Variant	: #9 c	of HO	DR S	51C10)H1L	_ in (GJ21	1932	.1			Var	iant :	#12 c	of HO	DR S	61C1	0H1L	_ in G	SJ2	11932	2.1				
Mon	1	2	3	4							M	on	1	2	3	4	5	6	7	8	9	10				
Туре	Α	В	А	В							Ту	рe	Α	В	Α	В	А	В	Α	В	Α	В				
Class	J1	J2	J1	J2							Cla	ass	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2				
Num	1	2	5	6/8							Νι	um	1	2	3	4	5/3	4	5	6	7	8				
Variant	#10	of ⊦	IOR	S1C	10H ²	1L in	GJ2	1193	2.1			Var	iant :	#13 c	of HO	DR S	51C1	0H1L	_ in G	SJ2	11932	2.1				
Mon	1	2	3	4	5	6					M	on	1	2	3	4										
Туре	А	В	А	В	А	В					Ту	vре	А	В	А	В										
Class	J1	J2	J1	J2	J1	J2					Cla	ass	J1	J2	J1	J2										
Num	1	2	5/3	4/6	7	8					Νι	lm	1	2/6	7	8										
Variant	: #11	of ⊦	IOR	S1C ²	10H ⁻	1L in	GJ2	1193	2.1																	
Mon	1	2	3	4	5	6	7	8																		
Туре	А	в	А	В	А	В	А	В																		
Class	J1	J2	J1	J2	J1	J2	J1	J2																		
Num	1	2	3/5	3/2/4	5	6	7	8																		
Variant	: #1 c	of HO	OR S	1C10)H1-	Bin	GJ2 ⁻	1193	3.1							Stri	uctura	al va	riants	s of	HOR	S1C		 1-B in	GJ211933.	.1
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14		Vai	Ord	ler o	f mo	nor	ners				Numbe	r of
Туре	A	В	A	В	A	В	A	В	A	В	A	В	A	В		#									copies	
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2		1	12	345	523	45	676	678				1(
Num	1	2	3	4	5	2	3	4	5	6	7	6	7	8		2	12	345	523	4 S	1C10)H1L.	.567	678	3	:
																3	12	345	523	45	6 S1	C10⊦	+1L.7	' 8		2
																4	12	345	5 S10	C10	H1-C	.234	456	767	8	2
							– s	1010)H1-I	3.3						<u>Ful</u>	l map	anc	l stat	<u>s</u>						
			Г			1 	S	1010)H1-l	3.3							_			_						
		Г			Ч_		s	1010)H1-I	3.3							S	1C10	DH1-6	B.8						
		Н	י ר				S	1 C 1 C 1 C 1 C)H1-1)H1-1	3.3/5 3.5				Т		-	— s	1010	0H1-1	B.4	2					
			l				š	1010)H1-I	3.5				11			···· S	1010	UH1-1	ย.4. ค.ศ.	.2					
				F			S	1010)H1-1	3.5 3.5					-		- 5	1010	ו-וחע 1 ווער	0.6 0.6	2					
				L			: S	1010)H1-l	3.5				7				1010	יוחט 1011 ו	0.0. ם כ	2					
			l r				- s	1010)H1-I	3.1				L	$-\Box$			1010	0H1_8	B.2	2					
]				S	1C10 1C10)H1-8)H1-8	3.7 3 7				_			s	1010	0H1_8	D.2. R 1	~					
			Ч		┶		- š	1010)H1-I	3.7				Н			s	1010	0H1_8	B.7						
			L				S	1C10 1C10)H1-I)H1-I	3.7 3.7							s	1010	0H1_8	B.7	2					
				[~ š	1010)H1-I	3.7				-	_		s	1010	0H1_8	B.5.	~					
				Ц			s	1010)H1-1)H1-1	3.7 3.7								1010	0H1-8	B.5	2					
				L			·· S	1010)H1-	3.7				Ч			— s	1010	0H1-8	в.з.	2					
							S	1010)H1-0)H1-0	3.2 3.2			1 02					1010	0H1_8	B.3	2					
				_			- Š	1010)H1-I	3.8			1.02					101	5111-1	0.5	2					
					_		- s	1010)H1-0)H1-0	3.8 3.4																
					╢─		·· S	1010)H1-	3.4		Not	e: In	SF1	, this	s is ti	he or	ily ca	ase w	/her	e					
			4	Г			. S	1010)H1-I	3.6		fron	ิจเกลา n the	e bas	ic m	onor	ner n	umb	a n0 erina	us U	ed					
			L				- s	1010)H1-6	3.6		for	the F	IOR-	tracl	k. He	ence,	ther	e are	2						
							S	1010)H1-I	3.6		cop whi	ies c ch is	of mo	nom	iers I d in f	2 to 7 he fir	' in tl st tra	he Ho	OR						
	02				Ч		S	1010)H1-l	3.6		****	01110	mult				5. 11								
0.	- 2 E						3		/I I I = I	0.0																

Variant	#1 c	of HC	DR S	1C1(0H1-	C in	GJ2′	1193	6.1		Structural variants of HOR S1C10H1-C in GJ21	1936.1	
Mon	1	2	3	4	5	6	7	8			Var Order of monomers	Number of	
Туре	А	В	А	В	А	В	А	В			#	copies	
Class	J1	J2	J1	J2	J1	J2	J1	J2			1 1 2 3 4 5 6 7 8	21	
Num	1	2	3	4	5	6	7	8			2 1 2 3 4 5 S1C10H1L.6 S1C10H1L.7/5 6 7 8	3 3	
											3 1 2 3/5 6 7 8	1	
											Full map and stats		
Variant	#2 c	of HC	DR S	1C1(0H1-	C in	GJ2′	1193	6.1				— S1C10H1-C.1
Mon	1	2	3	4	5	6	7	8	9	10			S1C10H1-C.1
Туре	А	В	А	В	А	В	А	В	А	В			··· S1C10H1-C.7
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2			S1C10H1-C.3
Num	1	2	3	4	5	1L.6	.7/5	6	7	8			S1C10H1-C.3/5
											S1C10H1-C.4	L] _L	S1C10H1-C.5
Variant	#3 c	of HC	DR S	1C1(0H1-	C in	GJ2′	1193	6.1		S1C10H1-C.6	[[S1C10H1-C.5
Mon	1	2	3	4	5	6					S1C10H1-C.3		···· S1C10H1-C.5
Туре	А	В	А	В	А	В					S1C10H1-C 5		- S1C10H1-C.5
Class	J1	J2	J1	J2	J1	J2							S1C10H1-C.8
Num	1	2	3/5	6	7	8					STC10H1-C.1		S1C10H1-C.6
											—0.02 ——— S1C10H1-C.7	L L L	S1C10H1-C.6
												_ L	S1C10H1-C.2
											0.0	2 🖵 🔤	— S1C10H1-C.4

HOR S1C10H2 in chromosome 10

Variant	#1 c	of HC	DR S	1C1(OH2	in G.	J211	930.1	1									
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Туре	А	В	А	В	А	В	А	В	А	В	А	В	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2
Num	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Structu	ral va	arian	its of	HOI	R S1	C10I	H2 ir	n GJ2	2119	30.1								
Var#	Ord	ler o	t mo	nom	ners							Nur	nber	of c	opie	es		
1	12	345	567	89	10 1 ⁻	1 12	13 1	4 15	16 1	7 18						48		
2	12	345	567	8 17	' 18											3		
Full ma	-	date																



Note: Monomer 9 is rather close to 17 so they recombine to produce variant #2 where 17 is likely to be a 9/17 hybrid.

HOR S1C12H1L in chromosome 12

Variant	t #1 c	of HC	R S	1C12	2H1L	. in G	GJ21	1954	.1					S1C	12H1	L.4	Stru	ictura	al va	riant	s of I	HOR	S1C	12H1L	in
Mon	1	2	3	4	5	6	7	8						S1C	12H1	L.8	GJ2	2119	54.1						
Туре	А	В	А	В	А	В	А	В	Γ					S1C	12H1	L.6	Var	Ord	er o	f mo	nom	ners	I	Numb	er of
Class	J1	J2	J1	J2	J1	J2	J1	J2			۹ſ			S1C S1C	12H1 12H1	L.2	#						(copie	S
Num	1	2	3	4	5	6	7	8			Ч	ſ		S1C	12H1	L.2	1	12	345	567	8				1360
											L			S1C	12H1	L.2	2	16	78						91
														S1C	12H1	L.2	3	12	345	567	23	456	78		28
Variant	t #2 c	of HC	DR S	1C12	2H1L	in G	GJ21	1954	.1		I	╢──		S1C	12H1	L.2	4	14	567	8 '					28
Mon	1	2	3	4										S1C	12H1	L.Z	5	12	38						20
Туре	Α	В	А	В								L.		S1C	12H1	L.2	6	12	34						18
Class	J1	J2	J1	J2							Г			S1C	12H1	L.3	7	18							15
Num	1	6	7	8					L					S1C	12H1	L.7	8	12	323	345	67	8			13
														S1C	12H1	L.1	9	12	345	567	67	8			11
Variant	t #3 c	of HC	OR S	1C12	2H1L	in G	GJ21	1954	.1 -	-0.02				SIC	12H1	L.5	10	12	345	565	67	8			10
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14			<u>Full</u>	map	and	stat	<u>S</u>				
Туре	А	В	А	В	А	В	А	В	А	В	А	В	А	В										_	
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2							s	51C12	H1L.	2	
Num	1	2	3	4	5	6	7	2	3	4	5	6	7	8			_		╎┕		— s	1C12	H1L.	6	
																					···· S	1C12	H1L.	4	
Variant	t #4 c	of HC	OR S	1C12	2H1L	. in G	GJ21	1954	.1												S	1C12	H1L.	8	
Mon	1	2	3	4	5	6															S	1C12	H1L.	3	
Туре	Α	В	А	В	А	В													\dashv r		–∙ s	1C12	H1L.	7	
Class	J1	J2	J1	J2	J1	J2													Ч		s	1C12	H1L.	1	
Num	1	4	5	6	7	8											—(0.02	Ľ		_s	1C12	H1L.	5	
Variant	t #5 c	of HC	DR S	1C12	2H1L	. in G	GJ21	1954	.1			Var	iant	#8 of	f HOF	R S1	C12	H1L	in G.	J211	954.	1			
Mon	1	2	3	4							Mo	on	1	2	3	4	5	6	7	8	9	10			
Туре	A	В	Α	В							Ту	pe	Α	В	A	В	A	В	A	В	A	В			
Class	J1	J2	J1	J2							Cla	ass	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2			
Num	1	2	3	8							Νι	ım	1	2	3	2	3	4	5	6	7	8			
Variant	t #6 c	of HC	OR S	1C12	2H1L	. in G	GJ21	1954	.1			Var	iant	#9 of	f HOF	R S1	C12	H1L	in G.	J211	954.	1			
Mon	1	2	3	4							M	on	1	2	3	4	5	6	7	8	9	10			
Туре	A	В	A	В							Ту	pe	A	В	A	В	A	В	A	В	A	В			
Class	J1	J2	J1	J2							Cla	ass	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2			
Num	1	2	3	4							Nu	ım	1	2	3	4	5	6	7	6	7	8			
., .								4 0 - 1							· · · -		101			c. :	10-				
Variant	t #7 c	of HC	NR S	1C12	2H1L	. in C	J21	1954	.1			Var	iant	#10 (ot HC	JR S	-1C1	2H1L	_ in G	iJ21	1954	F.1			
Won T	1	2									Mo 	on	1	2	3	4	5	6	1	8	9	10 5			
Туре	A	В									ly G	pe	A	B	A	B	A	В	A	В	A	B			
Class	J1	J2									Cla	ass	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2			
Num	1	8									Nu	ım	1	2	3	4	5	6	5	6	1	8			

HOR S1C12H2 in chromosome 12

Variant	#1 c	of HC	RS	1C12	2H2 i	in GJ	2119	949. ⁻	1										S1C12H2.5
Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	S1C12H2.9
Туре	А	В	А	В	А	В	А	В	А	В	А	В	А	В	А	В	Х	В	S1C12H2.15
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	S1C12H2.13
Num	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	S1C12H2.1
																			S1C12H2.3
																			S1C12H2.11
Variant	#2 c	of HC	RS	1C12	2H2 i	in GJ	2119	949. ⁻	1										S1C12H2.8
Mon	1	2	3	4	5	6													S1C12H2.14
Туре	А	В	А	В	Х	В													S1C12H2.16
Class	J1	J2	J1	J2	J1	J2													S1C12H2.4
Num	1	2	S1C12H3.1	16	17	18													

Structural variants of HOR S1C12H2 in GJ211949.1

Var#	Order of monomers	Number of copies
1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	4
2	1 2 S1C12H3.1 16 17 18	2
Full ma	ap and stats	

Variant	#1 c	of HC	R S	1C12	2H3d	l in A	EKP	0121	1346.1
Mon	1	2	3	4	5	6	7	8	
Туре	А	В	А	В	Х	А	В	А	
Class	R2	J2	J1	J2	Um	Um	Um	J1	
Num	1	2	3	4	5	6	7	8	

Variant #2 of HOR S1C12H3d in AEKP01211346.1

Mon	1	2	3	4	5	6	7	8	9	10	11
Туре	А	В	А	А	В	Х	В	А	А	Х	А
Class	R2	J2	Um	J1	J2	J1	J2	J1	J1	R1	J1
Num	1	2	3	5	4	5	4	5	6	7	8

Chromosome 12 p-arm

Variant	#3 c	f HC	DR S	1C12	2H3d	in A	AUX0	G010	0043	2.1
Mon	1	2	3	4	5	6	7	8	9	10
Туре	А	В	А	В	Х	А	В	Х	В	А
Class	R2	J2	J1	R1	R2	J1	J2	J1	J2	J1
Num	1	2	3	4	5	6	1d.2	1d.3	1d.2	8

Variant #4 of HOR S1C12H3d in AUXG01000432.1

Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Туре	Х	В	А	А	Х	Х	В	В	Х	В	Х	Х	А	В
Class	R2	J2	J1	J1	J2	Um	J2	Um	J1	R 1	J1	R1	J1	J2
Num	1	2	1d.3	3	4	5	4	4	5	4	5	4	3	2

Variant #5 of HOR S1C12H3d in AUXG01000432.1

Mon	1	2	3	4	5	6	7	8	9	10
Туре	А	А	В	А	Х	Х	Х	В	А	В
Class	R2	J1	R1	J1	Um	R1	J1	J2	J1	J2
Num	1	8	7	6	5	4	5	4	3	2



Structural variants of HOR S1C12H3d in AEKP01211346.1

Va #	ar Order of monomers	Number of copies
1	1 2 3 4 5 6 7 8	2
2	1 2 3 5 4 5 4 5 6 7 8	1
_		

Full map and stats

Note: In divergent HORs, the statistics of structural variants shown here is not representative due to their ruined structure. View the full map via the link provided.

Structural variants of HOR S1C12H3d in AUXG01000432.1*

Var #	Order of monomers	Number of copies
3	1 2 3 4 5 6 S1CMH1d.2 S1CMH1d.3 S1CMH1d.2 8	1
4	1 2 S1CMH1d.3 3 4 5 4 4 5 4 5 4 3 2	1
5 <u>Full</u>	1 8 7 6 5 4 5 4 3 2 map and stats	1

* Part of the sequence of this contig is in reverse complement direction.

HOR S1C10/12H1d in chromosome 10

Variant #1 of HOR S1C	10/12H1d in ABBA01020707.1		S1C10/12H1d.1
Mon 1 2			S1C10/12H1d.1
Type A B			"
	Note: In divergent HORs, the statistics of		
Class JT JZ	structural variants shown here is not		
Num 1 2	representative due to their ruined structure		S1C10/12H1d.1
	View the full map via the link provided.		S1C10/12H1d.1
			S1C10/12H1d.1
			hSiči0/12H1d.1
Structural variants of HC	R S1C10/12H1d In ABBA01020707.1		S1C10/12H1d.1
var# Order of monoi	mers Number of copies		4 S1C10/12H1d.1
1 1 2	2	.0	4 S1C10/12H1d.1
Full map and stats			S1C10/12H1d.1
Ohmann a a ann a 40			S1C10/12H1d.1
Chromosome 12			S1C10/12H1d.1
Structural variants of HC	OR S1C10/12H1d in ABBA01049496.1		SICIO/12HId.1
Var# Order of monor	mers Number of copies		S1C10/12H1d.1
1 1 2	2	9	S1C10/12H1d.1
Full man and state	_		S1C10/12H1d.1
<u>Fuil map and stats</u>			
			S1C10/12H1d.2
Chromosome 7			S1C10/12H1d.2
Structural variants of HC	DR S1C10/12H1d in ABBA01032025.1		S1C10/12H1d.2
Var# Order of monor	mers Number of copies		S1C10/12H1d.2
1 1 2		6	S1C10/12H1d.2
Full map and stats			S1C10/12H1d.2
<u></u>			S1C10/12H1d.2
•			S1C10/12H1d.2
Chromosome 19			S1C10/12H1d.2
Structural variants of HC	OR S1C10/12H1d in ABBA01017837.1		H
Var# Order of monor	mers Number of copies		
1 1 2		6	S1C10/12H1d.2
Full map and stats			S1C10/12H1d.2
			ЧС S1C10/12H1d.2
Chromosome 3			S1C10/12H1d.2
Structural variants of HC	DR S1C10/12H1d in ABBA01000935.1		S1C10/12H1d.2
Var# Order of mono	mers Number of copies		S1C10/12H1d.2
4 4 0			
112		3	S1C10/12H1d.2
Full man and stats		30.02	S1C10/12H1d.2 S1C10/12H1d.2 S1C10/12H1d.2

HOR S1C16H1L in chromosome 16

Variant	#1 c	of HC	R S	1C16	5H1L	. in G	J21	2051	.1					
Mon	1	2	3	4	5	6	7	8	9	10				
Туре	А	Х	А	В	А	В	А	В	А	В				
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2				
Num	1	2	3	4	5	6	7	8	9	10				
S1C16H1L.4 S1C16H1L.8 S1C16H1L.8 S1C16H1L.2 S1C16H1L.2 S1C16H1L.3 S1C16H1L.5 S1C16H1L.5 S1C16H1L.9 S1C16H1L.7														
Variant	#2 c	of HC	R S	1C16	6H1L	in G	J21	2051	.1					
Mon	1	2	3	4	5	6	7	8	9	10	11			
Туре	А	Х	А	В	А	В	А	Х	А	В	А			
Class	J1	J2	J1	J2	J1	J2	J1	J2	J1	J2	J1			
Num	1	2	3	4	5	6	9	2	3	4	5			
Variant	#3 c	of HC	R S	1C16	5H1L	. in G	J21	2051	.1					
Mon	1	2	3	4	5	6								

Structural variants of HOR S1C16H1L i Var Order of monomers #	n GJ212051.1 Number of copies
1 1 2 3 4 5 6 7 8 9 10	930
2 12345692345678910	30
3 1 2 3 8 9 10	28
4 12345678	12
5 123456910	10
6 1 2 3 6 7 8 9 10	10
7 125678910	9
8 1 2 3 4 S1C1/5/19H1L.5 8 9 10	8
9 1 10	6
10 1234567892345678910	6

Full map and stats

Mon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Туре	А	Х	А	В	А	В	А	Х	А	В	А	В	А	В	А	В
Class	J1	J2														
Num	1	2	3	4	5	6	9	2	3	4	5	6	7	8	9	10

Mon	1	2	3	4	5	6	
Туре	А	Х	А	В	А	В	
Class	J1	J2	J1	J2	J1	J2	
Num	1	2	3	8	9	10	

Variant #4 of HOR S1C16H1L in GJ212051.1

Mon	1	2	3	4	5	6	7	8
Туре	А	Х	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2	J1	J2
Num	1	2	3	4	5	6	7	8

Variant #5 of HOR S1C16H1L in GJ212051.1

Mon	1	2	3	4	5	6	7	8
Туре	А	Х	А	В	А	В	А	В
Class	J1	J2	J1	J2	J1	J2	J1	J2
Num	1	2	3	4	5	6	9	10

Variant #6 of HOR S1C16H1L in GJ212051.1

Mon	1	2	3	4	5	6	7	8	
Туре	А	Х	А	В	А	В	А	В	
Class	J1	J2	J1	J2	J1	J2	J1	J2	
Num	1	2	3	6	7	8	9	10	

Figure S1. The structure of SF1 HORs

The Figure presents the data on HOR structure obtained in this work. It contains the following elements for each HOR: (1) Colored panels which show the structure of a master HOR (variant #1) and of a number of most abundant structural variants (if any). The panel shows each monomer of a HOR with its PERCON class assignment (J1, J1, R1, R2 or Um for unclassed). It also indicates the independent PERCON assignment of A or B type of a monomer [1]. "Mon" indicates the straight numbering of the monomers in this particular variant, and "Num" indicates the numbering according to the basic HOR. In most cases, it is the numbering of variant #1. In S1C10H1, where two sequence variants are present (S1C10H1-B and S1C10H1-C), the basic HOR is variant #1 of S1C10H1L and the monomers in the B and C variants are numbered accordingly; (2) Two kinds of phylogenetic trees of monomers may appear for each HOR. One is the tree of the monomers present in the master HOR which is a copy with a basic HOR structure that was selected as a standard (fist tree). The number of branches in the first tree equals the number of monomers in a HOR. There may also be a tree which shows a larger number of monomers, if any additional HMM profiles were added to the master HOR monomers to ensure complete coverage (second tree). The number of branches in the second tree is greater than the number of monomers in a HOR and some hybrid monomers may be present. For divergent HORs, the tree of consensus HOR monomers is shown as the first tree. In case of S1C3H2, which is represented by two different RMs, additional trees are shown to illustrate the fact (see section 1.1.6 of Supplementary Note 1); (3) If there is a clear inner structure within a HOR, the closely related monomers are shown in a special color panel beneath the panel (1) and respective branches of the first tree are marked with the same color; (4) The statistics Table shows a number of the most abundant variants in respective RM or in selected contigs containing a HOR, if it is not represented by a RM; (5) A link to "Full map and stats" allows to view a full map of a RM (Map page) and a complete statistics of HOR variants in a RM (Stats page) in a separate document. Note that in RMs, AS is always in the forward strand, but if a HOR is not represented by a RM, the sample contigs may have AS in reverse strand. In such case, in a statistics Table, the order of monomers in a variant is shown as it would be in the forward strand, but in the full map, which is constructed automatically, the order of monomers should be read from end to start, and monomer 1 appears at the end. Also, for divergent HORs, the statistics Table does not represent the map adequately, since there may be a large number of different rearranged HORs each present only in few (or even one) copies. Such low copy variants are not shown in the Table, so one has to view the full map to see the composition and the size of the locus.