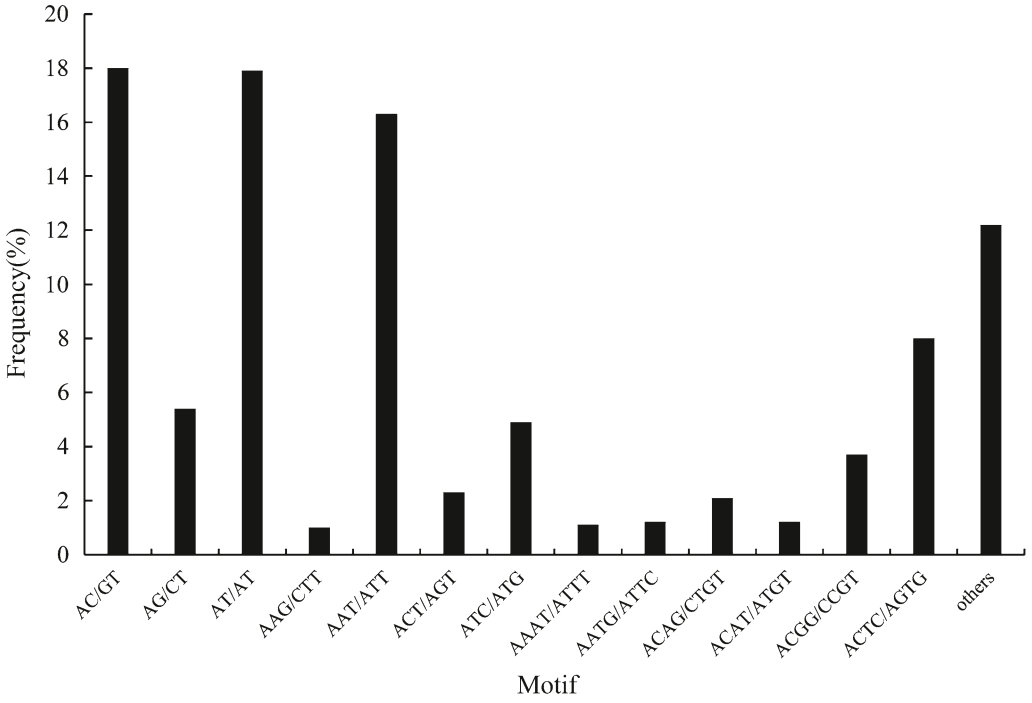
J . f G tr , V . 97, S 1, D 2018, O R . 61 65 I A S
:// . /10.1007/12041-018-0935-7



F . 1. D C. .

fi ; ( )
≥10% fi (N);
( ) >50%
≤20; ( ) -
. W fi I
- fi
. A
fi . T -
RAD
fi
- . S , fi -
(.

1. C 23 *C.* .

L	P (5′ 3′)	R	N.	S ( )	(°C)	*H*	*H*		PIC	G B
X 04	F: CATGTTTTCTTGCTTTTTCACG R: AACTGGTTGGCCTGGAGTTA	$(TG)_{23}$	11	270 320	60	0.744	0.851	0.117	0.822	MF460397
X 08	F:GCTGGGACTGCTGAGAGACT R:TTGGTAGTTGTTGTTCCCCG	$(TG)_{13}$	9	350 380	60	0.698	0.823	0.148	0.790	MF460398
X 11	F:TTACAAAACCTTGCTGTGCG R:GTTTTGATTACGACACCGCC	$(AC)_{30}$	10	250 290	60	0.600	0.882	0.001*	0.857	MF460399
X 17	F: CGCTTTTGAAATACCTTTTGA R: GCGTGTTCAAAGATGCTGAA	$(AG)_{15}$	11	180 220	60	0.382	0.843	0.030	0.810	MF460400
X 23	F: CGTCGTGACCTCTTGGCTAT R: GTAGTATGGCGGGAGGACAA	$(AT)_{12}$	13	240 310	60	0.682	0.919	0.000*	0.902	MF460401
X 47	F: TTGATGACAACAATAGGCG R: ACAAAAACCCTCCCCAAC	$(AT)_{8}$	7	188 208	60	0.467	0.763	0.000*	0.713	MF460402
X 48	F:TTCTACATGGCCGGATTG R:CTGATATCAACCCACGCA	$(AT)_{10}$	6	262 278	60	0.500	0.760	0.004	0.709	MF460403
X 51	F: GTTATCTGCATGCTTGGC R: GTGCAGAAAAAGTGCGAA	$(TG)_{15}$	16	236 276	60	0.591	0.873	0.000*	0.850	MF460404
X 07	F: TGACTGGAACAAAAACGGAA R: ACGCACAACTGCACACATTT	$(AAT)_{13}$	10	150 186	60	0.870	0.868	0.137	0.843	MF460405
X 09	F: GGACTGTAAGCGCTATGAGCA R: GAAGAAACGCTAATTTCTCTCCA	$(TAT)_{17}$	10	191 09	60	0.870	0.869	0.168	0.844	MF460406
X 12	F: TCATCAAACGCCGTAAATCA R: GCTGAAAAGCGCTCCTAAAA	$(TGA)_{12}$	12	189 228	60	0.650	0.833	0.001*	0.859	MF460407
X 17	F: CGCTCAAGACAATCTGTCCA R:TTTGACCTTAATTTGACGGC	$(TAA)_{9}$	13	199 238	60	0.711	0.868	0.030	0.843	MF460408
X 19	F: CATGCAGTCGTTTAGGAGCA R: TGCCGTGTCAGTCAGTTCAT	$(AAT)_{13}$	17	169 220	60	0.783	0.936	0.003	0.921	MF460409
X 22	F: CCTGTTCTTCCAGCAACGAT R: TGTTGCAGCAGTAGCATCAG	$(TAC)_{9}$	18	223 289	60	0.763	0.893	0.839	0.871	MF460410
X 27	F: CTTCTGGGTGTGGAATTTGG R: TCTCCTACAGCGATGACGTG	$(TAT)_{9}$	10	226 253	60	0.609	0.860	0.004	0.834	MF460411
X 29	F: CAAGTAGCAATGCAAATTCCC R: TATTCGTGCACGGTTATTGC	$(TTA)_{9}$	14	172 215	60	0.500	0.919	0.000*	0.899	MF460412
X 31	F: TCATCAAACGCCGTAAATCA R: GATTTGCGCGTGAAATTAGG	$(TAC)_{28}$	15	166 217	60	0.894	0.928	0.147	0.912	MF460413

1 ( )

L	P (5′ 3′)	R	N. S	( )	(°C)	H	H	HWE	PIC	GB
X 33	F: GGGAATCATCGCCAAAGTTA R: ACGTGAACGTTTCATTGCAG	$(ATT)_7$	11	172 202	60	0.439	0.872	0.000*	0.846	MF460414
X 37	F:AATTCATGCAGCCGTTTAGG R:CAACTGTGAGATGACACGGG	$(AAT)_{11}$	11	248 281	60	0.200	0.857	0.000*	0.828	MF460415
X 41	F: CATGCAGTCGTTTAGGAGCA R: TACATGATGCCCGTTTTTCA	$(AAT)_9$	12	198 234	60	0.717	0.895	0.020*	0.874	MF460416
X 45	F: CATTTTGTTGCTGGACTGGA R: CGGTACGCACCATCTACTCA	$(TAT)_9$	16	166 211	60	0.783	0.919	0.004	0.902	MF460417
X 47	F: ACCATCGTGGATTTTTACG R: CCTGTCTGTGGTGTAAGTG	$(ATG)_8$	13	243 288	60	0.761	0.880	0.480	0.858	MF460418
X 54	F: CATATCATGCAGTCCATTG R: GGCCCTGTTCTTAAAATG	$(TCA)_{13}$	8	184 208	60	0.745	0.826	0.451	0.793	MF460420

*S fi . ; PIC, ; H , ; H , (< 0.05/23).

T - (1). T 6 18. T 0.200 0.894 0.760 0.936, . N - fi HWE B ,

I - (R . 2004; L 2008; N . 2011; G . 2016), - HWE. N (> 0.01). A PIC >0.5, . T *C.* -

A t

T F R F C U (201762014) I D P Q C (17-3-3-64-).

B N. A., E P. D., A T. S., C M. C., S A. L., L . A. J E. A. 2008 R SNP RAD *L* **3**, 3376.

B M., A C. M. M A. D. 2014 C 13 N C - - *L* . *M* . *B* . . **41**, 1179 1187.

D D. S C. 2003 M - (MSA): *M* . *E* . **31**, 167 169.

G X., X., B Q. L Q. 2016 P - (S , 1920) (C : O) C *B* . . *E* . **66**, 129 136.

K S. T., T M. L. M T. C. 2007 R CERVUS - . *M* . *E* . **16**, 1099 1106.

M M., H M. P W. 2002 M DNA . *G* . **30**, 194 200.

N L., L Q. K L. 2011 M fi - C . *M* - (M , B , M) N C . *M* . *E* . **32**, 488 497.

R K. S., R W. L., G P. M., C R. B. A S. K. J . 2004 M

(*C*): fi -
-M
J. H . **95**, 346 352.
R F. 2008 G 007:
W L . *M* . *E* . .
8, 103 106.
T T., M W., V R. K. G A. 2003
E EST
-
- SSR-
(L.). . *A* . *G* . **106**, 411 422.
W . W . 1994 E T
(M)
. *J.* *C* . *F* **13**, 38 44 (C).
H. Z Q. 2008 E EST
EST-SSR P fi
(*C*). *J. H* . **99**, 208 214.

C : INDRAJIT NANDA