

Characterization of a wheat-*Dasypyrum breviaristatum* chromosome addition and its derived progenies carrying novel *Dasypyrum*-specific gliadin genes

Supplementary data

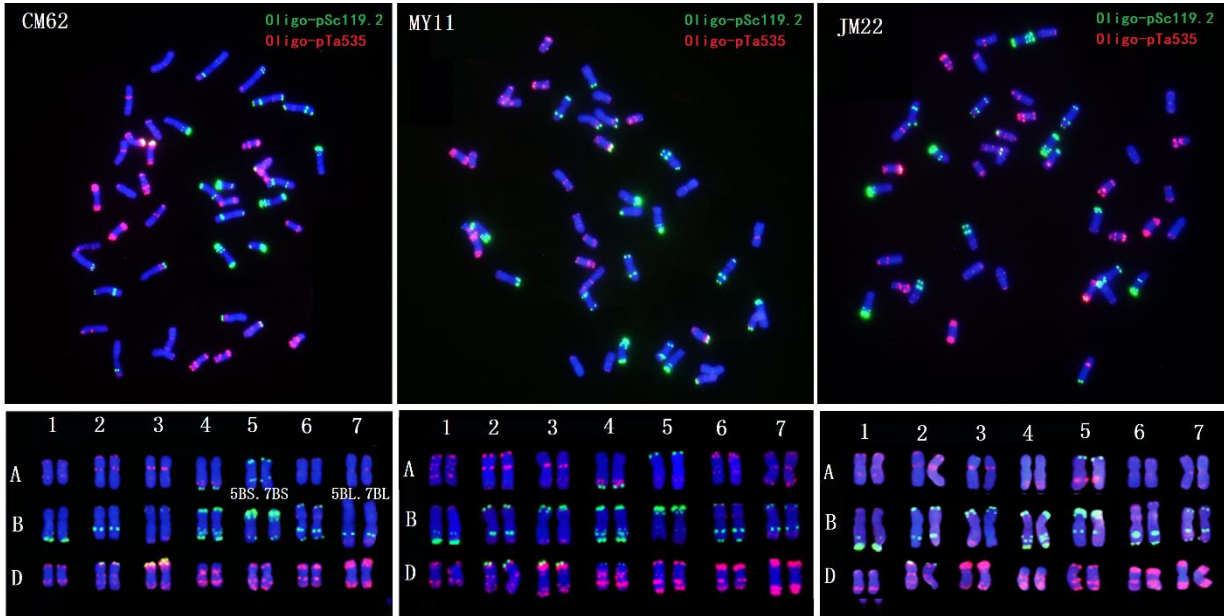


Figure S1. ND-FISH of mitotic metaphase of wheat parents CM62, MY11, and JM22 by probes Oligo-pTa535 (red) + Oligo-pSc119.2 (green). The karyotype for CM62 (a, b), MY11 (c, d) and JM22 (e, f) are shown.

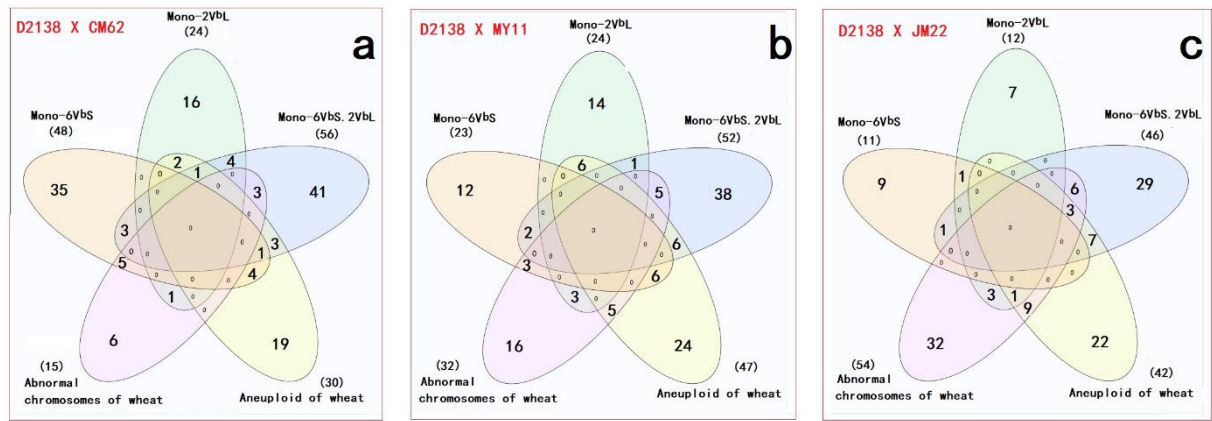


Figure S2. The distribution of different types of chromosome variation of F₂ plants derived from D2138 and three wheat hybrids.

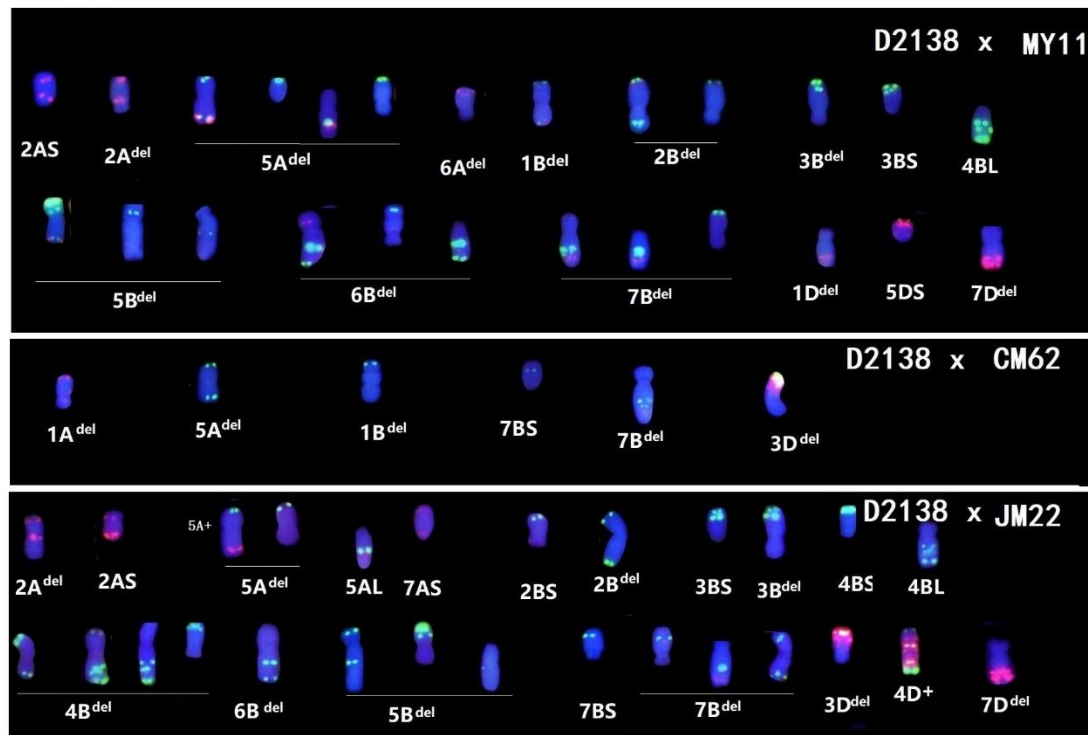


Figure S3. The wheat chromosome variations from the F₂ progenies between D2138 and three wheat lines. The probes Oligo-pTa535 and Oligo-pSc119.2 were used for ND-FISH.

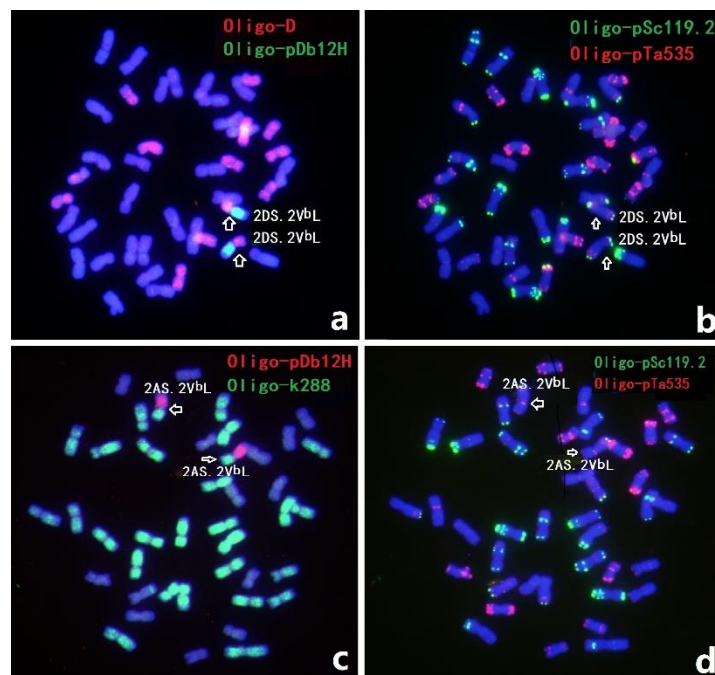


Figure S4. FISH of wheat-*D. breviaristatum* 2VbL translocation lines D310 and D334 from F₄ progenies of D2138 and MY11 hybrids. The probes Oligo-D + Oligo-pDb12H (a), Oligo-k288 + Oligo-pDb12H (c), Oligo-pSc119.2 + Oligo-pTa535 (b, d) are used for ND-FISH, respectively. Lines D310 (a, b) and D334 (c, d) contained a pair of wheat-*D. breviaristatum* chromosome translocations 2DS.2VbL and 2AS.2VbL, respectively.

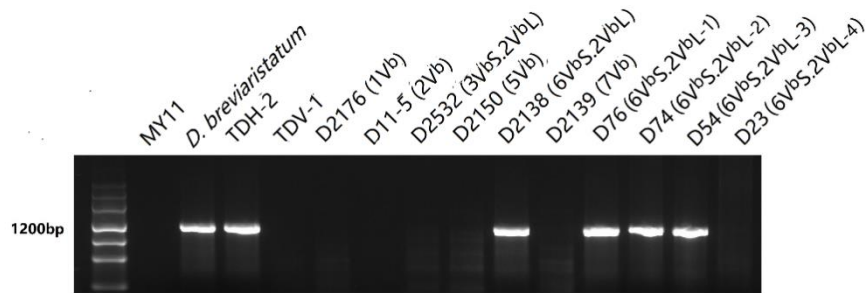


Figure S5. PCR amplification of *D. breviaristatum*-specific gliadin gene marker on wheat- *D. breviaristatum* introgression lines.



Figure S6. The adult plant morphology of the lines D2138, JM22, and their F₂ plants. A: D2138, B: JM22, C: F₂ missing 6V^bS.2V^bL, D: F₂ carrying mono- 6V^bS, E: F₂ carrying mono- 2V^bL, F: F₂ carrying 6V^bS.2V^bL.

Table S1. Chromosome number variation of F₂ plants derived from hybrids between D2138 and three wheat lines.

Chromosome constitution	D2138 x CM62	D2138 x JM22	D2138 x MY11	Total	Percentage of total
40	2	0	0	2	0.2
41	16	21	17	54	6.6
42	120	166	135	421	51.5
43	53	38	41	132	16.1
44	7	3	3	13	1.6
40+1t	1	0	0	1	0.1
41+1t	13	22	20	55	6.7
42+1t	43	18	27	88	10.8
43+1t	12	2	3	17	2.1
44+1t	1	0	2	3	0.4
40+2t	1	0	3	4	0.5
41+2t	1	4	4	9	1.1
42+2t	0	7	6	13	1.6
43+2t	0	3	1	4	0.5
44+2t	0	2	0	2	0.2
Total	270	286	262	818	