

**Table S5 Loci associated with significant differences in partial resistance to *Pst* in at least three environments (one at  $P < 0.01$ ) in a collection of 593 spring hexaploid wheat with infection type  $\geq 3$ .**

Chr.	Pos. <sup>a</sup> (cM)	QTL-representative SNP		Associated SNP <sup>e</sup>		PSTv races IT (-log P) <sup>g</sup>				Pst response <sup>f</sup> (-log P) <sup>g</sup>	
		Index <sup>b</sup>	Alleles <sup>c</sup>	Freq. <sup>d</sup>	IWA index	4	14	37	40	IT-ALL	SEV-ALL
1A	28.2	IWA414	T/ <u>G</u>	0.62	4644, 4506	-	-	-	-	<b>2.4</b>	<b>2.8</b>
1A	111.2	IWA577	<u>A</u> /C	0.46	4538, 1081, 5832, 578	-	-	-	-	<b>3.1</b>	<b>2.9</b>
1A	148.1	IWA672 *	A/ <u>G</u>	0.36	-	-	-	-	-	-	-
1B	93.5	IWA5769	A/ <u>G</u>	0.20	5862, 8246, 3017	-	-	<b>4.0</b>	-	<b>2.0</b>	1.7
1B	123.4	<b>IWA3892</b> *	<u>A</u> /G	0.70	846 <sup>h</sup>	-	-	-	1.3	<b>3.1</b>	<b>4.2</b>
1D	49.3	<b>IWA980</b>	<u>A</u> /C	0.44	642	-	-	-	-	1.7	1.7
1D	91.5	IWA2341	T/ <u>C</u>	0.37	2340	<b>2.6</b>	-	1.8	1.5	<b>2.0</b>	<b>2.2</b>
2A	9.9	<b>IWA422</b> *	T/ <u>C</u>	0.31	423, 3468, 3469	-	1.6	-	-	<b>3.1</b>	1.9
2A	177.7	IWA3576	T/ <u>C</u>	0.18	-	-	-	-	-	1.5	-
2B	126.3	IWA4606	T/ <u>C</u>	0.39	1102, 1127, 1128, 1129, 1130, 1131, 1177, 1188 <sup>i</sup>	-	-	-	-	<b>2.3</b>	1.3
2B	149.4	IWA7312	<u>A</u> /G	0.81	-	-	-	-	-	<b>2.1</b>	1.9
2B	197.2	IWA5177	<u>T</u> /C	0.81	7615, 2379, 4900	-	-	-	-	<b>2.9</b>	1.9
3A	59.4	IWA6877	<u>T</u> /C	0.11	5039, 1308	-	-	-	<b>2.7</b>	1.5	-
3B	3.9	<b>IWA5202</b> *	<u>A</u> /G	0.37	4796, 4801	-	-	-	-	<b>4.1</b>	-
3B	57.4	IWA6632 *	<u>A</u> /C	0.75	-	-	-	-	-	<b>2.0</b>	1.4
3B	88.1	IWA4085	T/ <u>C</u>	0.68	7519, 8196	-	-	-	-	<b>2.6</b>	<b>2.2</b>
4A	167.3	IWA2170 *	A/ <u>G</u>	0.37	7765, 1066, 6690	-	-	-	-	1.4	1.8
4A	181.7	<b>IWA1034</b> *	T/ <u>C</u>	0.17	1034, 6696	-	-	-	-	<b>4.1</b>	<b>2.7</b>
4B	26.4	IWA8109	A/ <u>G</u>	0.72	7311	1.3	-	-	-	<b>2.8</b>	<b>2.4</b>
4B	116.4	IWA27	A/ <u>G</u>	0.62	3781	-	-	-	-	<b>2.2</b>	<b>2.1</b>
5B	0.0	IWA868 *	<u>T</u> /C	0.19	757	-	-	-	-	<b>2.6</b>	1.7
5B	85.9	IWA3633 *	T/ <u>C</u>	0.54	-	-	-	-	-	<b>2.3</b>	<b>3.0</b>
5B	115.3	IWA8069	<u>A</u> /G	0.28	2335, 2336, 8187	-	<b>4.1</b>	1.6	-	<b>2.7</b>	1.5
6A	138.6	IWA3491	<u>T</u> /C	0.84	4950	-	-	-	-	<b>2.3</b>	1.4
6B	0.6	IWA1493	A/ <u>C</u>	0.14	1492	-	-	-	-	1.6	-
6B	60.1	IWA2090	<u>A</u> /G	0.20	3869, 3167, 3634, 2244	-	-	-	-	1.6	1.4
6B	112.3	<b>IWA7257</b> *	<u>T</u> /G	0.23	-	-	-	-	-	<b>2.5</b>	1.4
6B	118.5	IWA404	<u>T</u> /C	0.69	405	-	-	-	-	<b>2.0</b>	<b>2.2</b>
6D2	73.2	<b>IWA167</b> *	A/ <u>C</u>	0.10	7816	-	-	-	-	<b>3.8</b>	<b>3.9</b>
7A	56.4	IWA3715	T/ <u>C</u>	0.62	7161, 1156	-	-	1.5	-	1.4	1.5
7A	106.2	IWA2011	<u>A</u> /G	0.69	2009, 4288, 6004	-	-	-	-	1.9	<b>2.0</b>
7A	145.3	IWA4483	<u>A</u> /G	0.57	-	-	-	-	-	1.5	1.4
7B	48.0	IWA8525	A/ <u>G</u>	0.26	-	-	-	-	-	-	-

7B	65.6	IWA3437	A/ <u>G</u>	0.59	306, 3438, 3691, 3812, 4250, 507, 6712	-	-	-	-	1.8	1.9
7B	99.0	IWA4701	T/ <u>C</u>	0.65	1345, 1346, 4160, 4701	-	1.4	-	-	<b>2.5</b>	<b>2.2</b>

<sup>a</sup> Scaled position from the hexaploid wheat consensus map (Cavanagh et al. 2013)

<sup>b</sup> SNP indexes from the Illumina iSelect 9K wheat assay (Cavanagh et al. 2013). **Bold**: QTL with Bonferroni  $P < 0.1$ .

\* Eleven SNPs that are also identified using all 875 accessions.

<sup>c</sup> SNP variant associated to the resistant response is underlined.

<sup>d</sup> Frequency of the favorable SNP variant.

<sup>e</sup> SNP loci in LD with the representative SNP and significantly associated to the *Pst* response.

<sup>f</sup> IT= infection type, SEV= disease severity. IT-ALL and SEV-ALL, best linear unbiased estimates (BLUEs) over all environments.

<sup>g</sup> Significances are reported as  $-\log(P \text{ value})$  as follows: '-' = not-significant, 1.3 =  $P=0.05$ , values  $> 2$  are in **bold**, and value  $\geq 4$  (experiment-wise significant at  $\alpha = 0.10$ ) are in **bold underlined**.

<sup>h</sup> Additional associated SNPs: IWA1092, 919, 920, 7992, 8322, 3893, 846, 1791, 724, 7892, 6831

<sup>i</sup> Additional associated SNPs: IWA1102, 1127, 1128, 1129, 1130, 1131, 1177, 1188, 1229, 1237, 4604, 4606, 771, 776, 777, 829, 869, 874