**Table S1.** Published significant QTL markers associated with tan spot disease susceptibility on wheat chromosome 1AS.

| Marker Loci/Flanking markers | Marker type | Source |
|---|---|---|
| *Xgwm136* | SSR | Faris et al. 1997 |
| *Xgwm33* | SSR | Sun et al. 2010 |
| *Xcfa2153* | SSR | Sun et al.2010 |
| *Xiwa6644* - *Xpsp2999* | SNP and SSR | Kariyawasam et al. 2016 |
| IWA1367 | SNP | Liu et al. 2017 |
| *wPt-2527* - *wPt-744902* | DArT | Shankar et al. 2017 |
| *wPt-7296* - *wPt-6280* | DArT | Shankar et al. 2017 |
| *wPt-730618* - *wPt-669484* | DArT | Kalia et al. 2018 |


Faris JD, Anderson JA, Francl LJ, Jordahl JG (1997) RFLP mapping of resistance to chlorosis induction by *Pyrenophora tritici-repentis* in wheat. Theor Appl Genet 94: 98-103

Kalia B, Bockus WW, Singh S, Tiwari VK, Gill BS (2018) Mapping of quantitative trait loci for resistance to race 1 of *Pyrenophora tritici-repentis* in synthetic hexaploid wheat. Plant Breeding 137: 313-319

Kariyawasam GK, Carter AH, Rasmussen JB, Faris J, Xu SS, Mergoum M, Liu Z (2016) Genetic relationships between race-nonspecific and race-specific interactions in the wheat–*Pyrenophora tritici-repentis* pathosystem. Theoretical and Applied Genetics: 1-12

Liu Z, Zurn JD, Kariyawasam G, Faris JD, Shi G, Hansen J, Rasmussen JB, Acevedo M (2017) Inverse gene-for-gene interactions contribute additively to tan spot susceptibility in wheat. Theor Appl Genet 130: 1267-1276

Shankar M, Jorgensen D, Taylor J, Chalmers KJ, Fox R, Hollaway GJ, Neate SM, McLean MS, Vassos E, Golzar H, Loughman R, Mather DE (2017) Loci on chromosomes 1A and 2A affect resistance to tan (yellow) spot in wheat populations not segregating for *tsn1*. Theoretical and Applied Genetics 130: 2637-2654

Sun X-C, Bockus W, Bai G (2010) Quantitative Trait Loci for Resistance to *Pyrenophora tritici-repentis* Race 1 in a Chinese Wheat. Phytopathology 100: 468-473

**Figure S1**. Distribution of mean disease scores of hexaploid wheat varieties following infection with the *Δtoxa* Ptr mutant at seedling and tillering growth stages.

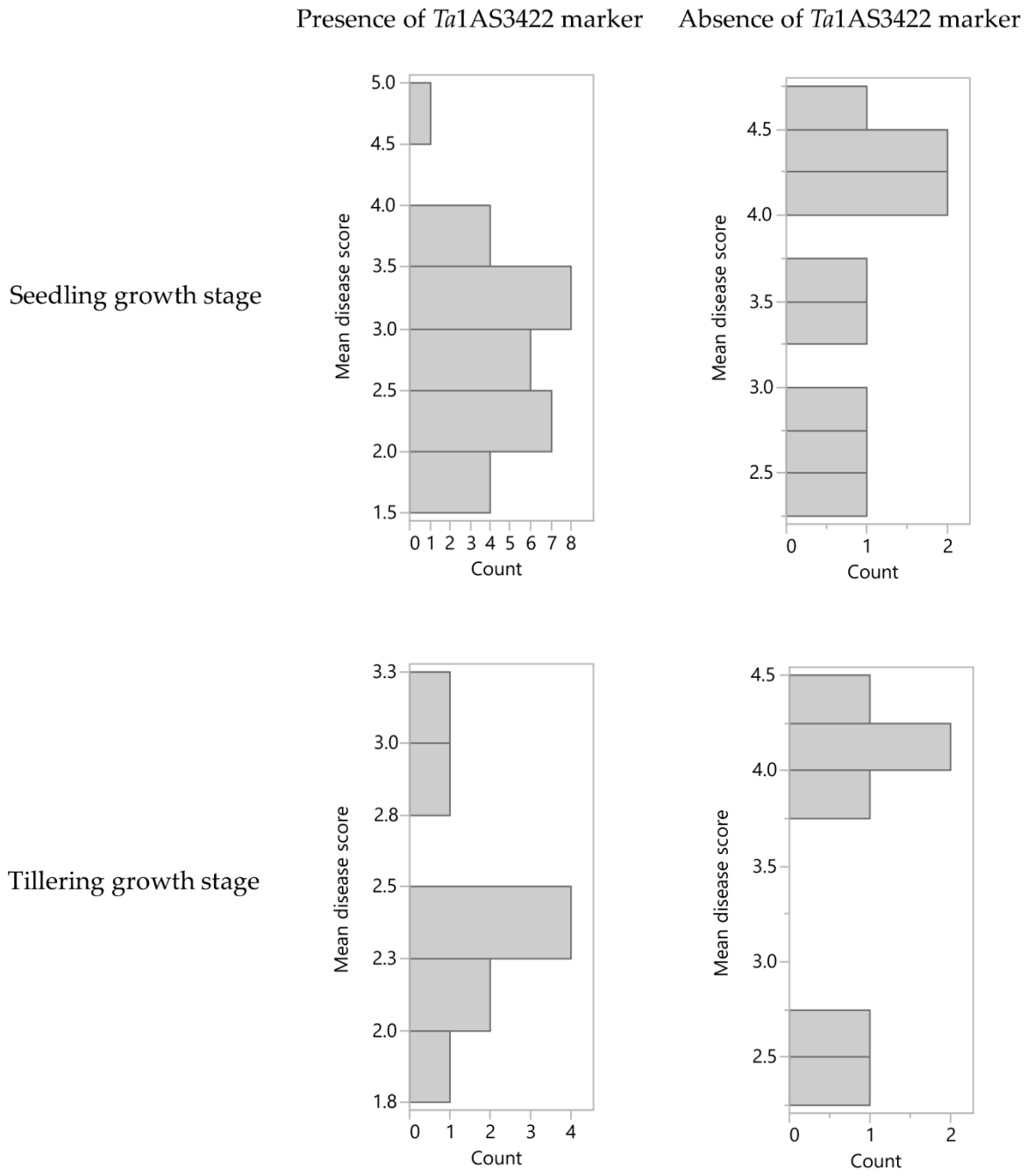

**Figure S2.** Genomic location on wheat chromosome 1A of previously reported QTL markers related to tan spot disease resistance (Table S2). DArT marker probes and primer sets targeting the marker loci are aligned to the wheat Chinese Spring genomic sequence. The position of *Ta*1AS3422 is marked at the nucleotide position of 118,557,370 bp – 118,557,586 bp. Diagonal lines represent a break at the nucleotide sequence of approximately 100 Mbp.

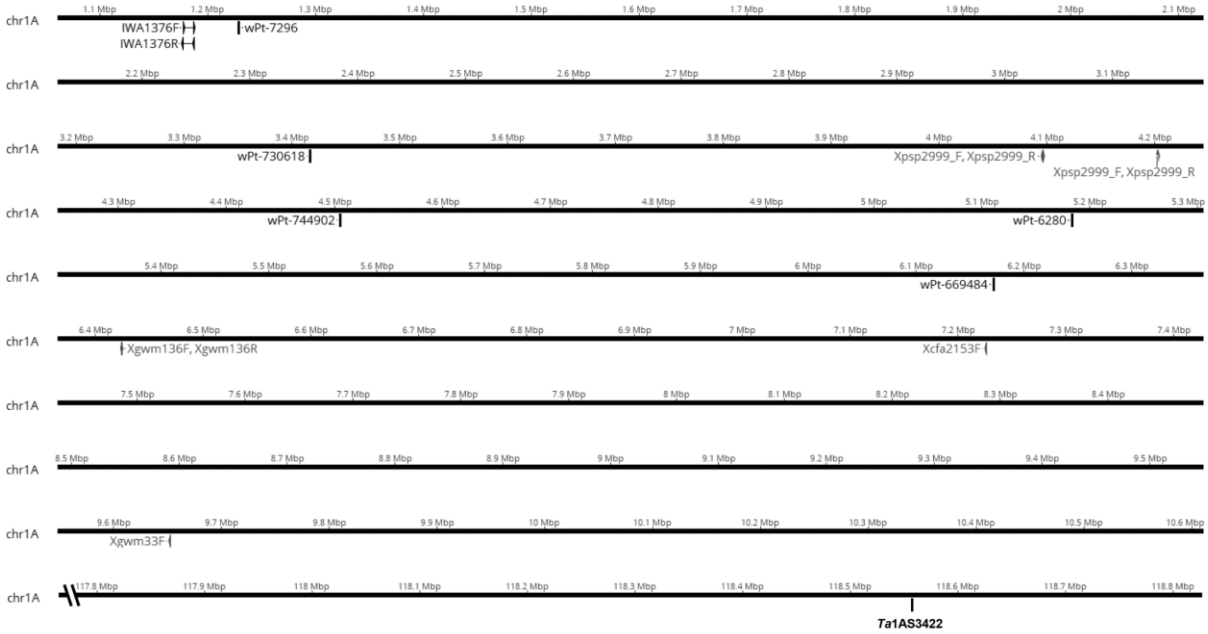

**Figure S3.** Location of *Ta*1AS3422 on the Chinese Spring 1A chromosome. The TraesCS1A02G114400.1 gene is adjacent to *Ta*1AS3422, while another annotated gene (TraesCS1A02G114300.2) is located 48 Mbp from *Ta*1AS3422.