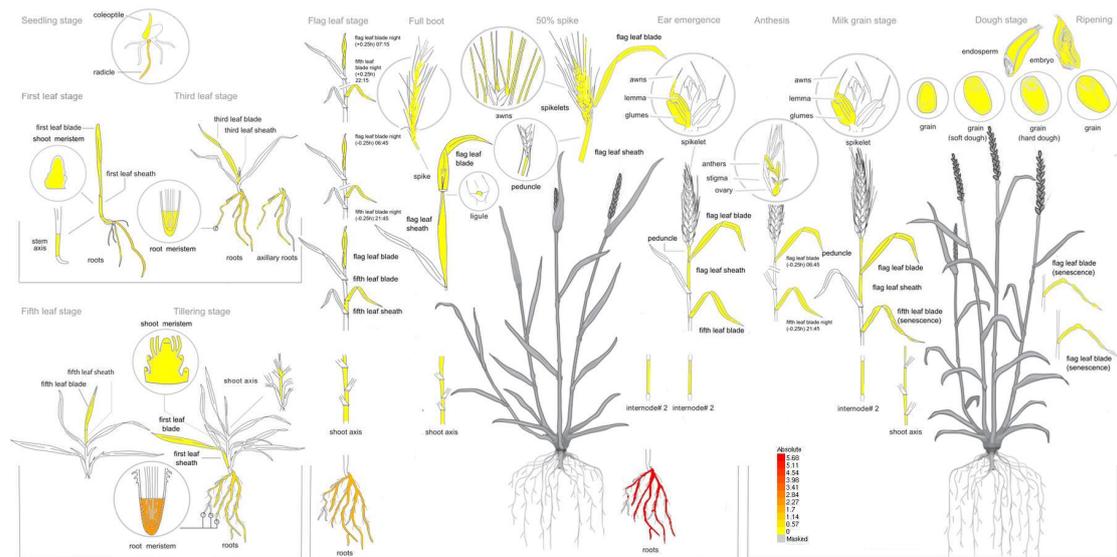


**Figure S1.** Expression profiles of *TaHAKs* in wheat roots under CK and LK conditions. **(a)** Hierarchical clustering and expression patterns of 89 *TaHAKs* in wheat roots. **(b)** Fold change of *TaHAK1-4A*, *TaHAK1-4B* and *TaHAK1-4D* in ‘KN9204’ and ‘BN207’ after LK stress. Wheat varieties ‘BN207’ (low  $K^+$  sensitive) and ‘KN9204’ (low  $K^+$  tolerant) were abbreviated to S and T, respectively (e.g., BN207 under control was named as SCK).



**Figure S2.** Expression level analysis of *TaHAK1-4A* in various development stages. Data were downloaded from [http://bar.utoronto.ca/efp\\_wheat/cgi-bin/efpWeb.cgi](http://bar.utoronto.ca/efp_wheat/cgi-bin/efpWeb.cgi). Expression levels were summarized as TPM from the transcript to the gene level using tximport v1.2.0.