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Molecular characterisation of high molecular weight glutenin allele *Glu-B1 h* encoding 1Bx14+1By15 subunits in bread wheat (*Triticum aestivum* L.)

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Supplementary Fig. 1. The complete encoding sequences of HMW-GS 1Bx14 (*a*) and 1By15 (*b*).

Supplementary Fig. 2. Identification of HMW-GS 1Bx14 (*a*) and 1By15 (*b*) from Hanno by LC-MS/MS.

Suppl. Fig. 1a.

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10      20      30      40      50      60      70      80      90      100
1Bx14 1  .....ATGGCTAAGC GGTGGTCTCT CTTTGGGGCA GTAGTCGTCT CCCTCGTGGC TCTCACCGCC GCTGAAGGTG AGGCCTCTGG ACAACTACAA TGTGAGCGCG 100

110     120     130     140     150     160     170     180     190     200
1Bx14 101 .....AGCTCGAGGC ATGCCAACAG GTGGTGGACC AGCAACTCCG AGACGTTAGC CCGGGGTGCC GCCCATCAC CGTCAGCCCG GGCACGAGAC AATACGAGCA 200

210     220     230     240     250     260     270     280     290     300
1Bx14 201 .....GCAACCTGTG GTGCCGTCCA AGGCCGGATC CTTCTACCCC AGGAGACTA CGCCTTCGCA GCAACTCCAA CAAATGATAT TTTGGGGAAT ACCTGCACTA 300

310     320     330     340     350     360     370     380     390     400
1Bx14 301 .....CTAAGAAGGT ATTACCCAAAG TGTAACCTCT TCGCAGCAGG GGTCACTACTA TCCAGGCCAA GCTTCTCCCG AACAGTCAGG ACAAGGACAG CAGCCAGGAC 400

410     420     430     440     450     460     470     480     490     500
1Bx14 401 .....AAGGACAGCA ACCAGGACAA GGGCAACAAG ATCAGCAACC AGGACAAGA CAACAAGGAT ACTATCCAAC TTCTCCGCAA CAGCCAGGAC AAGGGCAACA 500

510     520     530     540     550     560     570     580     590     600
1Bx14 501 .....ATTGGGACAA GGGCAACCAG GGTACTACCC AACTTCACAG CAGCCAGGAC AAAAGCAGCA GCCAGGACAA GGGCAACAAT CAGGACAAGG ACAACAAGGG 600

610     620     630     640     650     660     670     680     690     700
1Bx14 601 .....TACTACCCAA CTTCCCGCCA ACAGTCAGGA CAAGGGCAAC AACCCGGACA AGGGCAACCA GGTACTACCC CAAGTTCTCC GCACAGTCA GGACAAATGGC 700

710     720     730     740     750     760     770     780     790     800
1Bx14 701 .....AGCAACAGG ACAAGGGCAA CAGCCAGGAC AAGGCAGCA ATCAGGACAA GGGCAACAAG GTCAGCAGCC AGGCAAGGG CAACGACCGG GACAAGGACA 800

810     820     830     840     850     860     870     880     890     900
1Bx14 801 .....ACAAGGTAC TACCCAACTT CTTGCAACA CCGGGGCAA GGGCAACAAT CAGGACAAGG GCAACCAGGG TACTACCCAA CTTCTTTGGG GCAGCCAGGA 900

910     920     930     940     950     960     970     980     990     1000
1Bx14 901 .....CAATGGCAGC AACCCAGGAC AGGGCAGCAA TCAGGACAAG GGCAACAAGG TCAGCAGCCA GGACAAGGAC AACCAACCAG ACAAGGACAA CAAGGATACT 1000

1010    1020    1030    1040    1050    1060    1070    1080    1090    1100
1Bx14 1001 .....ACCCAAC TTCGCAACAG CCAGGACAAG GGCAACAACC GGGCAAGGG CAACCAGGGT ACTACCCAAC TTCGAGCAG TCGGAACAAG GGCAGCAGCC 1100

1110    1120    1130    1140    1150    1160    1170    1180    1190    1200
1Bx14 1101 .....AGGACAAGGA AAACAACCAG GACAAGGACA ACAAGGTACT TACCCAACCT ATTCAACAAC GTCAGGACAA GGGCAACAAC TGGGACAAGG GCAACCAGGG 1200

1210    1220    1230    1240    1250    1260    1270    1280    1290    1300
1Bx14 1201 .....TACTACCCAA CTTCTCCACA CGAGTCAGGA CAAGGACAAC AATCAAGACA AGGACAACAA GGTATTACCC CAACTTCTCC GCAACAGTCA GGACAAGGGC 1300

1310    1320    1330    1340    1350    1360    1370    1380    1390    1400
1Bx14 1301 .....AACAAACGGG ACAAGGGCAA TCGGGTACT TCCCAACTTC TCGGCAGCAG TCAGGACAAG GGCAAGGACC AGGACAAGGA CAACAGTCGG GACAAGGGCA 1400

1410    1420    1430    1440    1450    1460    1470    1480    1490    1500
1Bx14 1401 .....ACAAAGTCAG CAACCAGGAC AAGGACAACA AGCGTACTAC CCAACTTCTT CGCAACAGTC AGGACAAGG CAACAGGAC GACAAATGGA ACGACCGGGA 1500

1510    1520    1530    1540    1550    1560    1570    1580    1590    1600
1Bx14 1501 .....CAAGGGCAAC CAGGGTACTA CCCAACCTCT CCACAGCAGC CAGGACAAGG GCAACAATCA GGACAATGGC AACTAGTGTG CTACCCAAC TCTCCGCAAC 1600

1610    1620    1630    1640    1650    1660    1670    1680    1690    1700
1Bx14 1601 .....AGCCAGGCCA ATTGCAACAA CCAGCACAAG GGCAACAACC AGCAACAAGG CAACAATCAG CACAAGAGCA ACAGCCAGGA CAAGCGCAAC AATCAGGACA 1700

1710    1720    1730    1740    1750    1760    1770    1780    1790    1800
1Bx14 1701 .....ATGGCAACTA GTGTACTACC CAACTTCTCC GCAACAGCCA GGACAATTGC AACCAACCAG ACAAGGGCAA CAAGGGTACT ACCCAACTTC TCCACAACAG 1800

1810    1820    1830    1840    1850    1860    1870    1880    1890    1900
1Bx14 1801 .....TCGGACAAG GGCAACAAGG GTACTACCCA ACTTCTCCGC AACAGTCAGG ACAAGGGCAA CAAGGGTACT ACCCAACTTC TCCGCAACAG TCAGGACAAG 1900

1910    1920    1930    1940    1950    1960    1970    1980    1990    2000
1Bx14 1901 .....GGCAGCAGCC AGGACAAGGA CAACAGCCAA GACAAGGCA ACAAGGTACT TACCCAATTT CTCGCAAGCA GTCAGGACAA GGGCTGCAAC CAGGACAAGG 2000

2010    2020    2030    2040    2050    2060    2070    2080    2090    2100
1Bx14 2001 .....GCAACAAGGA TACTACCCAA CTTCTCCGCA CGAGTCAGGA CAAGGGCAAC AACAGGACA TGAGCAACAG CCAGGACAAT GGCTGCAACC AGGACAAGGG 2100

2110    2120    2130    2140    2150    2160    2170    2180    2190    2200
1Bx14 2101 .....CAACAAGGGT ACTATCCAAC TTCTTCACAG CAGTCAGGAC AAGGGCAGCA ATCAGGACAA GGGCAACAAG GGTACTACCC AACTTCTCTG TGGCAACCAG 2200

2210    2220    2230    2240    2250    2260    2270    2280    2290    2300
1Bx14 2201 .....GACAAGGGCA ACAACCAGGA CAAGGGCAAC AAGGTTACGA CAGTCCATAC CATGTTAGCG CGGAGTACCA GGCGCCCCC CTAAGGTGG CAAGGCGCA 2300

2310    2320    2330    2340    2350    2360    2370
1Bx14 2301 .....GCAGCTCGCG GCACAGCTGC CGCAATGTG CCGGCTGGTG GGCAGCGAGC CATTGTGGC CAGCCAGTGA TAG 2373

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Suppl. Fig. 1b.

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10 20 30 40 50 60 70 80 90 100
1By15 1 .....
ATGGCTAAGC GGTTAGTCTT CTTTGGGACA GTAGTCATCA CCCTCGTGGC TCTCACTGCT GCTGAAGGTG AGGCCTCTAG GCAACTACAG TGTGAGGGCG 100

110 120 130 140 150 160 170 180 190 200
1By15 101 .....
AGCTCCAGGA GAGCTCGTCT GAGGCATGCC GACAGGTGCT GGACCAACAG TTGGCCGGTC GGCTGCCATG GAGCACGGGG CTCCAGATGC GATGCTGCCA 200

210 220 230 240 250 260 270 280 290 300
1By15 201 .....
GCAGCTCCGA GATGTTAGCG CTAAGTGCCG CCCCGTCGCC GTCAGCCAAAG TCGTAAGACA ATATGAGCAA ACCGTGGTGC GCGCCAAGGG CGGATCCTTC 300

310 320 330 340 350 360 370 380 390 400
1By15 301 .....
TACCCTGGCG AGACCACACC ACTGCAGCAA CTCCAACAAG TAATATTTTG GGGAAACATCT TCACAACACAG TACAAGGGTA TTACCACAAGC GTAAGTCTTC 400

410 420 430 440 450 460 470 480 490 500
1By15 401 .....
CTCAGCAGGG GCCATATTAT CCAGGCCAAG CTTCTCCACA ACAGCCAGGA CAAGGACAAC AGCCAGGCAA ATGGCAAGAA CTGGGCAAGG GGCAACAAAG 500

510 520 530 540 550 560 570 580 590 600
1By15 501 .....
GTACTACCCA ACTTCTCTGC ATCAGTCAGG ACAAGGACAA CAAGGGTACT ACCCATCTTC TCTGCAGCAA CCAGGACAAG GGCAACAGAG AGGACAAGGG 600

610 620 630 640 650 660 670 680 690 700
1By15 601 .....
CAACAAGGAT ACTACCCAAC TTCTCTGCAG CAGCCAGGAC AAGGGCAACA GATAGGACAA GGGCAACACAG GGTATTACCC AACTTCTCCGC CAGCACCCAG 700

710 720 730 740 750 760 770 780 790 800
1By15 701 .....
GACAAGGCA ACAACCAGGA CAAGGCAGC AATAGGACA AGGGCAACAA CCAGGACAAG GGGGCAAAAT AGGACAAGGG CAACAATCAG GACAAGGGCA 800

810 820 830 840 850 860 870 880 890 900
1By15 801 .....
ACAAGGGTAC TATCCAATT CTCCACAGCA GCTAGGACAA GGGCAACAC CAGGACAATG GCAACAATCA GGACAAGGGC AACAAAGGTA CTACCCAATT 900

910 920 930 940 950 960 970 980 990 1000
1By15 901 .....
TCTCAGCAGC AGCCAGGACA AGGGCAACAA GGCAGTACC CAGCTTCTCA GCAGCAGCCA GGACAAGGGC AACAAAGGCA GTACCCAGCT TCTCAGCAGC 1000

1010 1020 1030 1040 1050 1060 1070 1080 1090 1100
1By15 1001 .....
AGCCAGGACA AGGGCAACAA GGCAGTACC CAGCTTCTCA GCAGCAGCCA GGACAAGGGC AACAAAGGCA GTACCCAGCT TCTCAGCAGC AGCCAGGACA 1100

1110 1120 1130 1140 1150 1160 1170 1180 1190 1200
1By15 1101 .....
AGGGCAAGAA GGCAGTACC CAGCTTCTCA ACAGCAGCCA GGACAAGGGC AACAAAGGCA CTACCCAGCT TCTGAGCAGC AGCCAGGACA AGGGCAACAA 1200

1210 1220 1230 1240 1250 1260 1270 1280 1290 1300
1By15 1201 .....
CGGCCTACC CAACTTCTCT GCAGCAACCA GGACAAGGGC AACAAAGGCA TTACACAGCT TCTCTGCAGC AACCCAGGACA AGGGCAACAA GGCATTACC 1300

1310 1320 1330 1340 1350 1360 1370 1380 1390 1400
1By15 1301 .....
CAGCTTCTCT GCAGCAGGTA GGACAAGGAC AACAAATAGG ACAGCCAGGA CAAAGGCAAC AACCCAGGACA AGGGCAACAA ACAGGACAAG GGCAACAATT 1400

1410 1420 1430 1440 1450 1460 1470 1480 1490 1500
1By15 1401 .....
AGAACAAGGG CAACAACCAG GACAAGGGCA ACAAGGGTAC TATCCAATT CTCCACAACA GTCAGGACAA GGGCAACAC TAGGACAATC GCAACAACCA 1500

1510 1520 1530 1540 1550 1560 1570 1580 1590 1600
1By15 1501 .....
GGACAAGGGC AACAAAGGTA CTACTCAACT TCTCTACAAC AGCCAGGACA AGGGCAACAA GGGCACTACC CAGCTTCTCT GCAGCAGCCA GGACAAGGAC 1600

1610 1620 1630 1640 1650 1660 1670 1680 1690 1700
1By15 1601 .....
ATCCAGGACA AAGGCAACAA CCAGGACAAG GGCAACAACC AGAACAAGGG CAACTACCAG GACAGGGGCA ACAAGGTAT TATCCAATT CTCCGACGCA 1700

1710 1720 1730 1740 1750 1760 1770 1780 1790 1800
1By15 1701 .....
GCCAGGACAA GGGAAACAAC TAGGACAAGG GCAACAAGGG TACTACCCA CTTCTCTGCA ACAGCCAGGA CAAGGGCAAC AACCCAGGACA AGGGCAACAA 1800

1810 1820 1830 1840 1850 1860 1870 1880 1890 1900
1By15 1801 .....
GGGCCTGCC CAACTTCTCC GCAACAGACA GGACAAGGCG AACAAACCAGG ACAAGGCCAA CAAATAGGAC AAGTGCAACA ACCAGGACAA GGGCAACAAG 1900

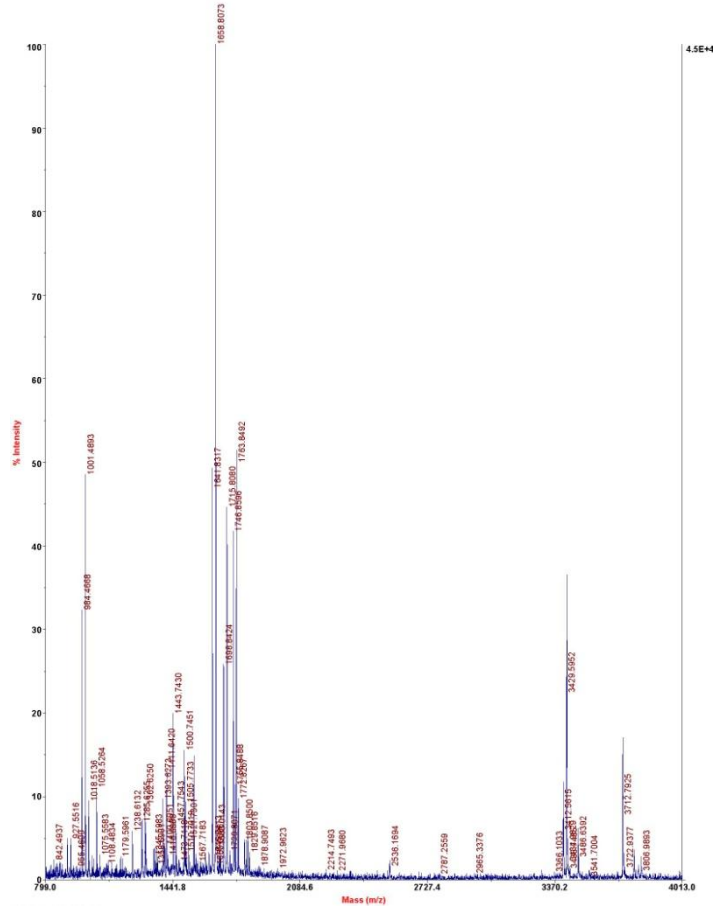
1910 1920 1930 1940 1950 1960 1970 1980 1990 2000
1By15 1901 .....
GGTACTACCC AATTTCTCTG CAGCAGTCAG GACAAGGGCA ACAGTCAGGA CAAGGGCAAC AATCAGGACA AGGACACCAA CTAGGACAAG GGCAACAATC 2000

2010 2020 2030 2040 2050 2060 2070 2080 2090 2100
1By15 2001 .....
AGGACAAGAG CAACAAGGCT ACGACAACCC ATACCATGTT AACACAGAGC AGCAAACAGC CAGCCCAAAG GTGGCAAGG TGCAGCAACC CGGCACACAG 2100

2110 2120 2130 2140 2150
1By15 2101 .....
CTGCCGATAA TGTGTCGGAT GGAGGGGGGC GACGCATTAT CGGCTAGCCA GTGATAG 2157

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Suppl. Fig. 2a.



Suppl. Fig. 2b.

