

# Molecular diversity of $\alpha$ -gliadin expressed genes in genetically contrasted spelt (*Triticum aestivum* ssp. *spelta*) accessions and comparison with bread wheat (*T. aestivum* ssp. *aestivum*) and related diploid *Triticum* and *Aegilops* species

## Molecular Breeding

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### Online Resource 5. Variants of the DQ2.5-glia- $\alpha$ 1, - $\alpha$ 2, - $\alpha$ 3 and DQ8-glia- $\alpha$ 1 epitopes according to their genome of origin.

Epitope	Amino acid sequence	A genome	B genome	D genome	Total
DQ2.5-glia- $\alpha$ 1	PFQPQLPY	150	0	104	254
	PFQ-PQLPY	0	138	0	138
	PYPQQLPY	0	0	51	51
	PFSQQLPY	16	0	0	16
	PFLQQLPY	16	0	0	16
	PYPQHLPY	0	0	11	11
	PFL-PQLPY	0	10	0	10
	QFP-PQQPY	0	3	0	3
	PFQPQLSY	1	0	0	1
	PSP-PQLPY	0	1	0	1
	PYPRPQLPY	0	0	1	1
	Total		183	152	167
DQ2.5-glia- $\alpha$ 2	PQPQLPYPQ	0	0	157	157
	P-PQLPYPQ	0	139	0	139
	PQPQLPYSQ	123	0	0	123
	PQPQLPYSH	27	0	0	27
	SQPQLPYSQ	16	0	0	16
	LQPQLPYSQ	16	0	0	16
	PQPQLPYPQ	0	0	11	11
	L-PQLPYPQ	0	8	0	8
	P-PQQPYPQ	0	3	0	3
	L-PQLPYPR	0	2	0	2
	PQPQLPYPR	0	0	1	1
	PRPQLPYPQ	0	0	1	1
	PQPQLSYSQ	1	0	0	1
Total		183	152	170	505
DQ2.5-glia- $\alpha$ 3	FRPQQPYPQ	173	0	93	266
	FPPQQPYPQ	0	149	0	149
	FRQQQPYPQ	60	0	0	60
	FRPQQSYPQ	0	0	13	13
	FRPQKPYPQ	4	0	0	4

	<b>SPPQQYPYQ</b>	0	2	0	2
	FQPQQYPYQ	1	0	0	1
	FPPQQSYYPQ	0	1	0	1
	Total	238	152	106	496
DQ8-glia- $\alpha$ 1	QGSFRPSQQ	176	2	2	180
	QGSFQSSQQ	0	102	1	103
	QGSFQPSQQ	6	7	48	61
	QGFFQPSQQ	0	1	57	58
	QVSFQPSQL	0	40	0	40
	QGSFRPSQL	1	0	0	1
	QGSFQPSQL	0	0	1	1
	Total	183	152	109	444

Amino acid residues differing from the canonical epitope are highlighted in bold and deleted residues are represented by a dash.