

# **Identification and quantitation of amylase trypsin inhibitors across cultivars representing the diversity of bread wheat**

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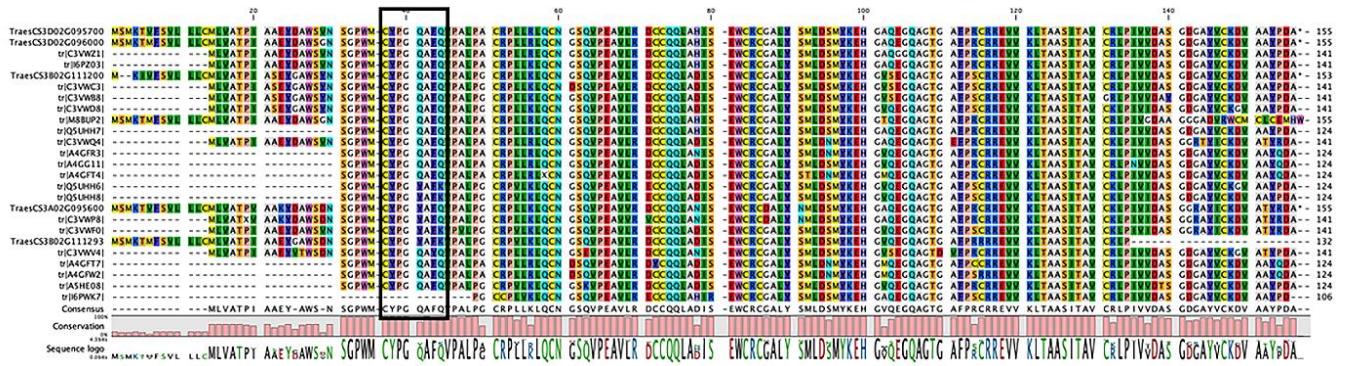
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**Figure S1:** Multiple sequence alignment showing the conservation of cysteines ( $\geq 50\%$ ) in ATIs. Identified protein sequences were aligned with ATIs identified in the bread wheat reference genome.

**Table S1:** Wheat cultivars and MAGIC parent lines used in the present study.

Commercial wheat cultivars	
#	Name
C1	Janz
C2	Sunvale
C3	Diamond Bird
C4	Calingiri
C5	Wyalkatchem
C6	EGA Wedgetail
C7	Ventura
C8	EGA Gregory
C9	EGA Bonnie Rock
C10	Yitpi
C11	EGA Kidman
C12	Magenta
C13	Mace
C14	Longreach Scout
C15	Chara

MAGIC parent lines	
M1	Alsen
M2	AC Barrie
M3	Baxter
M4	Pastor
M5	Westonia
M6	Volcani
M7	Xiaoyan 54
M8	Yitpi

**Table S2:** Homology search (BLASTp analysis) of ATI peptides from wheat cultivars monitored by sMRM experiment. Peptides marked as (\*) asterisk are plotted in Figure 3 and 5.

Accession	Peptide Sequence	Name	BLASTp results	Unique	100% of Identity match in NCBI
P16347	ADANYYVLPANR	Endogenous alpha-amylase/subtilisin inhibitor	<b>P16347</b> , A0A1D5UPZ8, R7W4S0	No	<i>Triticum aestivum, Aegilops tauschii</i>
P16347	AHGGGLTMAPGHGR	Alpha-amylase/subtilisin inhibitor	P07596, <b>P16347</b> , A0A1D5TYI6, A0A1D5TD52, F2E8J4, J9V7J5, A0A1D5UPZ8, R7W4S0	No	<i>Hordeum vulgare, Triticum aestivum, Hordeum vulgare f. agriocrit, Aegilops tauschii</i>
P16347	CPLFVSQEADGQR	Endogenous alpha-amylase/subtilisin inhibitor	<b>P16347</b> , A0A1D5TYI6, A0A1D5TD52, A0A1D5UPZ8, R7W4S0	No	<i>Triticum aestivum, Aegilops tauschii</i>
P16347	HVITGPVR	Endogenous alpha-amylase/subtilisin inhibitor	<b>P16347</b> , A0A1D5TYI6, A0A1D5TD52, A0A1D5UPZ8	No	<i>Triticum aestivum, Aegilops tauschii</i>
P16347	LMACGDSCQDLGVFR	Endogenous alpha-amylase/subtilisin inhibitor	<b>P16347</b> , A0A1D5TYI6, A0A1D5TD52, M7ZF09	No	<i>Triticum aestivum, Triticum urartu</i>
P16347	YSGAEVHEYK	Endogenous alpha-amylase/subtilisin inhibitor	P07596, <b>P16347</b> , A0A1D5TYI6, A0A1D5TD52, F2E8J4, J9V7J5, A0A287IWR2	No	<i>Hordeum vulgare, Triticum aestivum, Hordeum vulgare f. agriocrit, Aegilops tauschii</i>
Q5UHH7	CGALYSMLDSMYK	0.19 dimeric alpha-amylase inhibitor	P01084, P01085, <b>Q5UHH7</b> , A0A1D5VPJ2, M8BUP2, W5D003, A0A1D5WWL8, W5DK32, M8C3B8, A0A077RSX3, A0A077RQ83, A0A1D5WX53, C3VWV8, C3VWV0, C3VWU9, C3VWV3	No	<i>Triticum aestivum, Aegilops tauschii, Secale cereale, Eremopyrum bonaepartis</i>
Q5UHH7	DCCQQLAHISEWCR	0.19 dimeric alpha-amylase inhibitor	P01084, P01085, <b>Q5UHH7</b> , A0A1D5VPJ2, M8BUP2, W5D003, A0A1D5WWL8, W5DK32, M8C3B8, A0A077RSX3, A0A077RQ83, A0A1D5WX53, C3VWV8, C3VWV0, C3VWU9, C3VWV3, C3VX00, C3VWZ9, C3VWT8, C3VWZ1, Q4U1A2, C8CAI4, Q4U196, I6PZ03, C3VWW9, C3VWW8, C3VWX8, C3VWU5, C3VWS2, C3VWT7, C3VWE2, C3VWL6, C3VWU3, C3VWX6, C3VX03, C3VX04, C3VWW4, A0A1D5WWL9, L7P101, L7P0L4,	No	<i>Triticum aestivum, Aegilops tauschii, Secale cereale, Eremopyrum bonaepartis</i>

			L7P100, M1NYK0, L7P0Z6, L7P0N7, L7P0X6, M1PM40, L7P0X2, Q19A44, Q5UHI0, A4GFU5, A4GFU7, A4GFU1, Q5UHH1, A4GFU4, Q5UHH3, Q4W0V7, C3VWZ8, Q5UHH4		
Q5UHH7	*EHGAQEGQAGTGAFFPR	0.19 dimeric alpha-amylase inhibitor	P01085, <b>Q5UHH7</b> , A0A341RUL7, A0A1D5VPJ2, M8BUP2, W5D003, A0A1D5WWL8, W5DK32, M8C3B8, A0A077RSX3, A0A077RQ83, A0A1D5WX53, C3VWV8, C3VWV0, C3VWU9, C3VWV4, C3VWZ1, C3VX00, C3VWT8, C3VWN1, C3VWJ7, C3VWH6, C3VWK6, C3VWR4, C3VWL9, C3VWP8, C3VW62, C3VWH3, C3VWH8, C3VWR5, C3VW81, C3VWJ0, C3VWD4, C3VWG4, C3VW64, C3VWL8, C3VWE9, C3VWR3, C3VWE5, C3VWI7, C3VWF4, C3VWG0, C3VWJ1, C3VWP7, Q4U1A2, Q4U1A0, C8CAI4, Q4U196, I6PZ03, C3VWX1, C3VWW9, C3VWW8, C3VWX8, C3VWU6, C3VWU5, C3VWW6, C3VWW3, C3VWS4, C3VWR8, C3VWS0, C3VWR8, C3VWS2, C3VWT7, C3VWR7, C3VW87, C3VWE2, C3VWL6, C3VW61, C3VWU3, C3VWX6, C3VX03, C3VX04, C3VWW4, C3VX01, C3VW79, C3VW86, S4UM47, A0A1D5VKI2, A0A1D5WWL9, I6Q083, L7P101, L7P0X4, L7P0Z7, L7P0L4, L7P100, M1NYK0, L7P0Z6, L7P0N7, L7P0X6, M1PM40, L7P0X2, Q19A44, Q5UHI0, A4GFU5, A4GFR3, A4GFU1, Q5UHH1, A4GFU4, Q5UHH7, Q5UHH3, Q4W0V7, C3VWZ8	No	<i>Triticum aestivum, Aegilops tauschii, Secale cereale, Eremopyrum bonaepartis, Hordeum vulgare</i>
Q5UHH7	*LPIVVDASGDGAYVCK	0.19 dimeric alpha-amylase inhibitor	A0A1D5WWL8, W5DK32, M8C3B8, A0A077RSX3, A0A077RQ83, A0A1D5WX53, C3VWW0, C3VWW1, C3VWV8, C3VWV4, C3VWZ8, C3VX00, C3VWZ9, C3VWT8, C3VWC7, C3VWL1, C3VWR4, C3VWR1, C3VWJ3, C3VWJ8, C3VWL3, C3VWH8, C3VW70, C3VWR5, C3VWE6, C3VWJ0, C3VW96, C3VWC3, C3VWD7, C3VWQ2, C3VWH7, C3VWD9, C3VWC5, C3VWQ9, C3VW99, C3VWQ7, C3VWZ2, C3VWR3, C3VWZ1, C3VWZ5, C3VWF1, C3VWP3, C3VWA4,	No	<i>Triticum aestivum, Aegilops tauschii, Secale cereale, Eremopyrum bonaepartis, Hordeum vulgare</i>

			C3VWJ9, Q4U198, Q4U1A5, Q4U1A4, Q4U1A2, Q4U1A0, Q4U196, Q4U197, I6PZ03, A0A1D5VPJ3, C3VX09, C3VX10, C3VWY8, C3VWY7, C3VWX1, C3VWW9, C3VWW8, C3VWX8, C3VWU6, C3VWU5, C3VWW2, C3VWS2, C3VWT2, C3VWT7, C3VWY2, C3VWY5, C3VWZ0, C3VWQ4, C3VW77, C3VWV2, C3VWE2, C3VWL6, C3VW78, C3VW69, C3VWU3, C3VWX6, C3VX03, C3VX04, C3VWV4, A0A1D5WWL9, L7P101, L7P0X4, L7P0Z7, L7P0L4, L7P100, L7P0Z6, L7P0N7, M8BUP2, L7P0X2, L7P0L8, Q19A45, Q19A44, A4GFW9, A4GFU9, A4GFW3, A4GFV1, A4GFV0, A4GFX0, A4GFX4, A4GFW2, A4GFX3, A4GFV7, A4GFR7, A4GFR9, A4GFR6, A4GFS0, A4GFR8, A4GFX6, A4GFZ4, A4GFP6, A4GFR0, A4GFR1, A4GFR2, A4GFQ9, A4GFP7, Q5UHI0, Q5MD68, A4GG07, A4GG12, A4GG03, A4GFT1, A4GFU0, A4GFT5, A4GFS4, A4GFT2, A4GFU7, A4GFT4, A4GFS3, A4GFU1, A4GFS7, A4GFT7, Q5UHH4, Q5UHH1, L7P0N5, A5HE08, A5HE29, A5HDZ8, A5HE07, A5HE18, A5HE22, A5HDZ6, A4GFR4, A4GFR3, A4GFV6, A4GFU8, A4GFY6, A4GFS5, A4GFP2, Q5UHH7, A4GG16, A4GG01, A4GG09, A4GG14, Q5UHH3, A4GG04, A4GFZ9, Q5I4D7, A5HE16, A5HE12, A5HDZ5, P01084, P01085, M1PY55, Q4W0V7, I6PK7		
Q5UHH7	LQCNGSQVPEAVLR	0.19 dimeric alpha-amylase inhibitor	P10846, A0A1D5VPJ2, M8BUP2, A0A1D5WWL8, W5D003, W5DK32, M8C3B8, A0A077RSX3, A0A077RQ83, C3VX13, C3VWW0, C3VWW1, C3VWV8, T1WHS5, T1WHQ5, C3VWZ6, T1WIK9, T1WH90, T1WI05, C3VWZ8, C3VX00, C3VWZ9, C3VWT8, C3VWC7, C3VWL1, C3VWJ7, C3VWK6, C3VWR4, C3VWR1, C3VWJ4, C3VWM4, C3VWQ4, C3VWJ3, C3VWJ8, C3VW67, C3VWL3, C3VWH8, C3VW70, C3VWR5, C3VWE6, C3VWJ0, C3VWB8, C3VWN4, C3VWY9, C3VW96, C3VWD7, C3VWP0, C3VWQ2, C3VWH7,	No	<i>Triticum aestivum, Aegilops tauschii, Secale cereale, Eremopyrum bonaepartis, Hordeum vulgare, Thinopyrum bessarabicum</i>

			C3VWD9, C3VWC5, C3VWR2, C3VWE0, C3VW72, C3VWQ9, C3VW99, C3VWQ7, C3VWF0, C3VWG1, C3VWJ5, C3VWZ2, C3VWR3, C3VWM7, C3VWZ1, C3VWG7, C3VWI7, C3VWP3, C3VWA4, C3VWJ9, Q4U198, Q4U1A4, Q4U1A2, Q4U1A1, Q4U1A0, Q4U199, C8CAI4, Q4U1A3, Q4U195, I6PZ03, A0A1D5VPJ3, C3VX08, T1WIM0, T1WI17, T1WGZ8, C3VWX1, C3VWW8, C3VWX8, C3VWU6, C3VWU5, C3VWW2, T1WHY5, C3VWT5, C3VWT1, C3VWT6, C3VWT7, C3VWT3, C3VWS7, C3VWQ3, C3VW77, C3VW93, C3VW80, C3VWV2, C3VWE2, C3VW63, C3VW78, C3VWD8, C3VW69, C3VX11, C3VWU3, C3VWX6, C3VX03, C3VX04, C3VWW4, S4UMQ8, I6Q083, L7P101, L7P0X4, L7P0Z7, L7P0Z8, L7P0L4, L7P100, M1NY70, L7P0Z6, L7P0N7, L7P0M1, M1PST7, L7P0X6, M1Q848, M1PM40, L7P0X2, Q19A45, Q19A44, A4GFW9, A4GFW5, A4GFV1, A4GFV0, A4GFX4, A4GFV5, A4GFX3, A4GFV7, A4GFR9, A4GFS0, A4GFR8, A4GFX6, A4GFY3, A4GFZ4, A4GFZ7, A4GFY7, A4GFP9, A4GFR0, A4GFR1, A4GFP8, A4GFQ0, A4GFR2, A4GFQ9, A4GFP7, A4GFQ8, Q5UHH6, Q5UHH8, Q5MD68, A4GG07, A4GG15, A4GG11, A4GG12, A4GG03, A4GFU0, A4GFT5, Q5I4D6, A4GFS4, A4GFU5, A4GFU7, A4GFS8, A4GFU1, Q5UHH4, Q5UHH1, L7P0N5, A4GFR3, A4GFV6, A4GFU8, A4GFV3, A4GFX5, A4GFY6, A4GFZ0, A4GFS9, A4GFS5, A4GFU4, Q5I4D5, A4GFN8, A4GFP2, <b>Q5UHH7</b> , A4GG16, A4GG01, A4GG09, A4GG14, Q5UHH3, A4GG04, A4GFZ9, P01084, P01085, Q4W0V7, I6PWK7		
Q5UHH7	LTAASITAVCR	0.19 dimeric alpha-amylase inhibitor	M8BUP2, A0A1D5WWL8, W5DK32, M8C3B8, A0A077RSX3, A0A1D5WX53, C3VX13, C3VWW0, C3VWW1, C3VWV8, C3VWV4, C3VWZ8, C3VX00, C3VWZ9, C3VWT8, C3VWC7, C3VWL1, C3VWR4, C3VWR1, C3VWJ3, C3VWJ8, C3VWE8, C3VWL3,	No	<i>Triticum aestivum</i> , <i>Aegilops tauschii</i> , <i>Secale cereale</i> , <i>Eremopyrum bonaepartis</i> , <i>Hordeum vulgare</i> , <i>Thinopyrum bessarabicum</i>

		C3VWH8, C3VW70, C3VWR5, C3VWE6, C3VWJ0, C3VWI4, C3VW96, C3VWC3, C3VWD7, C3VWQ2, C3VWH7, C3VWD9, C3VWC5, C3VWR2, C3VWQ9, C3VWQ7, C3VWL8, C3VWG1, C3VWR3, C3VWM7, C3VWZ1, C3VWZ5, C3VWI7, C3VWF1, C3VWA4, Q4U1A5, Q4U1A4, Q4U1A2, Q4U1A0, Q4U196, Q4U197, I6PZ03, A0A1D5VPJ3, C3VX09, C3VX10, C3VWY8, C3VWY7, C3VWX1, C3VWW9, C3VWW8, C3VWX8, C3VWU6, C3VWU5, C3VWW2, C3VWS2, C3VWT2, C3VWT7, C3VWY2, C3VWY5, C3VWZ0, C3VWQ3, C3VW77, C3VWV2, C3VWE2, C3VWL6, C3VW78, C3VW69, C3VWU3, C3VWX6, C3VX03, C3VX04, C3VWW4, S4ULQ4, A0A1D5WWL9, I6Q083, L7P101, L7P0X4, L7P0Z7, L7P0L4, L7P100, M1NYK0, L7P0Z6, L7P0N7, L7P0X6, M1PM40, L7P0X2, L7P0L8, Q19A45, Q19A44, A4GFW9, A4GFU9, A4GFW5, A4GFW3, A4GFV1, A4GFV0, A4GFX0, A4GFX4, A4GFW2, A4GFX3, A4GFW1, A4GFV7, A4GFR7, A4GFR9, A4GFR6, A4GFR8, A4GFX6, A4GFY3, A4GFZ7, A4GFP6, A4GFR0, A4GFR1, A4GFQ0, A4GFR2, A4GFQ9, A4GFP7, A4GFQ8, Q5UHI0, Q5MD68, A4GG15, A4GG11, A4GG12, A4GFU3, A4GFT1, A4GFU0, Q5I4D6, A4GFS4, A4GFT2, A4GFU5, A4GFU7, A4GFT4, A4GFS3, A4GFS8, A4GFU1, A4GFS7, A4GFT7, Q5UHH4, Q5UHH1, L7P0N5, A5HE03, A5HE25, A5HDZ8, A5HE07, A5HE08, A5HE22, A5HDZ6, A5HE21, A4GFR4, A4GFR3, A4GFV6, A4GFU8, A4GFV3, A4GFX5, A4GFY6, A4GFZ0, A4GFS9, A4GFS5, A4GFU4, Q5I4D5, A4GFP2, <b>Q5UHH7</b> , A4GG16, A4GG01, A4GG09, A4GG14, Q5UHH3, A4GG04, A4GFZ9, Q5I4D7, A5HE16, A5HE12, A5HDZ5, P01084, P01085, Q4W0V7, I6PWK7, C3VWZ2, C3VWP3, A4GFS0, A4GFZ4, A4GG03, A0A1D5VPJ2, A0A341RUL7, W5D003, C3VWN1, C3VWJ7, C3VWH6, C3VWK6, C3VWL9, C3VWJ4,		
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			C3VWM4, C3VWQ4, C3VWP8, C3VW62, C3VW67, C3VWH3, C3VWA5, C3VW81, C3VWP9, C3VWB5, C3VWD4, C3VWN4, C3VWY9, C3VWP0, C3VWG4, C3VW64, C3VWE0, C3VW99, C3VWF7, C3VWF0, C3VWJ5, C3VWE9, C3VWE5, C3VWG7, C3VWG2, C3VWF4, C3VWG0, C3VWA8, C3VWJ1, C3VWZ4, C3VWP7, Q4U198, Q4U1A1, Q4U199, C8CAI4, Q4U1A3, Q4U195, C3VX08, C3VWW6, C3VWW3, C3VWS4, C3VWT5, C3VWT1, C3VWT3, C3VWS0, C3VWR8, C3VWT6, C3VWR7		
C4P622	*CGDLSSMLR	Alpha-amylase inhibitor 0.28	P01083, C4P661, C4P5M9, C4P5V7, C4P5G2, C4P5X2, C4P5Y7, C4P5I9, C4P5D0, C4P5W2, C4P5N6, C4P5S0, C4P5N1, C4P5F8, C4P5Z0, C4P5C2, C4P5L9, C4P5P7, C4P5I4, C4P5K4, C4P652, C4P5E1, C4P5J9, C4P681, C4P5K2, C4P5I8, C4P5V6, C4P5G9, C4P5C4, C4P5W5, C4P627, C4P615, C4P5W7, C4P5U8, C4P655, C4P5C9, C4P5E7, C4P5Y9, <b>C4P622</b> , C4P5R2, C4P5B9, C4P5X6, C4P684, C4P639, C4P5H8, C4P5J2, C4P5A6, C4P5Z6, C4P678, C4P5R3, C4P5R6, C4P5D2, C4P5H6, C4P673, C4P5L2, C4P586, C4P5A2, C4P633, C4P5B7, C4P647, C4P5E5, C4P598, C4P5G0, C4P5Z1, C4P594, C4P5B6, C4P5S3, C4P617, C4P5N2, C4P5A1, C4P5G4, C4P5W6, C4P5E4, C4P623, C4P5D4, C4P665, C4P5C1, C4P5I2, C4P5J4, C4P629, C4P591, C4P5F3, C4P593, C4P649, C4P5F6, C4P5U2, C4P599, C4P584, C4P583, X2KYP9, R7W9C2, C4P5R8, C3VWV7, A4ZIY9, A4ZIX1, A4ZJ03, A4ZIW5, A4ZIV1, A4ZIV2, A4ZIV5, A4ZIW9, A4ZIZ0, A4ZIZ6, A4ZIW6, A4ZIV8, A4ZIU3, A4ZIT6, A4ZIU6, A4ZIU7, A0A1D6BDS7, A0A1D6BDS6	No	<i>Triticum aestivum, Triticum dicoccoides, Aegilops tauschii, Triticum monococcum, Aegilops bicornis, Aegilops longissima</i>
	*DCCQLADINNEWCR	Alpha-amylase inhibitor 0.28	P01083, C4P661, C4P5M9, C4P5V7, C4P5G2, C4P5Y7, C4P5I9, C4P5D0, C4P5S0, C4P5N1, C4P5F8, C4P5Z0, C4P5C2, C4P5P7, C4P5K4, C4P652, C4P5E1, C4P681, C4P5K2, C4P5I8,	No	<i>Triticum aestivum, Triticum dicoccoides, Aegilops tauschii, Triticum monococcum, Aegilops bicornis, Aegilops longissima</i>

			C4P5V6, C4P5C4, C4P5W5, C4P5K1, C4P5U8, C4P655, C4P5Y9, <b>C4P622</b> , C4P5R2, C4P684, C4P5V1, C4P639, C4P5H8, C4P5J2, C4P5A6, C4P5Z6, C4P5E6, C4P5R3, C4P5R6, C4P5H6, C4P673, C4P586, C4P633, C4P647, C4P5E5, C4P598, C4P5G0, C4P594, C4P5B6, C4P5S3, C4P5N2, C4P5A1, C4P5G4, C4P5E4, C4P623, C4P5D4, C4P665, C4P5J4, C4P629, C4P591, C4P5F3, C4P649, C4P5F6, C4P5U2, C4P599, C4P584, C4P583, X2KYP9, R7W9C2, C4P5R8, C3VWV7, A4ZIY9, A4ZIX1, A4ZIW5, A4ZIV1, A4ZIT7, A4ZIV5, A4ZIW9, A4ZIZ0, A4ZIZ6, A4ZIW6, A4ZIV8, A4ZIU3, A4ZIT6, A4ZIU6, A4ZIU7		
	LQCVGSQVPEAVLR	Alpha-amylase inhibitor 0.28	P01083, C4P661, C4P5F1, C4P5M9, C4P5V7, C4P5G2, C4P5X2, C4P5Y7, C4P5I9, C4P5D0, C4P5W2, C4P5N6, C4P5S0, C4P5F8, C4P5Z0, C4P5C2, C4P5L9, C4P5P7, C4P5I4, C4P5K4, C4P652, C4P5E1, C4P5J9, C4P681, C4P5K2, C4P5I8, C4P5V6, C4P5C4, C4P5W5, C4P627, C4P615, C4P5K1, C4P5W7, C4P655, C4P5C9, C4P5D5, C4P5E7, C4P5Y9, <b>C4P622</b> , C4P5B9, C4P5X6, C4P684, C4P5V1, C4P639, C4P5H8, C4P5J2, C4P5A6, C4P5Z6, C4P678, C4P5E6, C4P5R3, C4P5R6, C4P5D2, C4P5H6, C4P673, C4P5L2, C4P586, C4P5A2, C4P633, C4P5B7, C4P647, C4P5E5, C4P598, C4P5G0, C4P5Z1, C4P594, C4P5B6, C4P617, C4P5N2, C4P5A1, C4P5G4, C4P5W6, C4P623, C4P5D4, C4P5C1, C4P5I2, C4P5J4, C4P629, C4P591, C4P5F3, C4P593, C4P649, C4P5F6, C4P5U2, C4P599, C4P584, C4P583, X2KYP9, R7W9C2, C4P5R8, T1WHD6, T1WGZ3, C3VWV7, T1WH24, T1WHW1, T1WIP3, T1WHU9, T1WI30, T1WHS2, T1WIL7, T1WH31, T1WHV7, T1WI38, T1WIP7, T1WHT5, T1WHD9, T1WI34, T1WIM8, T1WHB2, A4ZIY9, A4ZIX1, A4ZJ03, D2TGC3, A4ZIW5, A4ZIV1, A4ZIV2, A4ZIT7, A4ZIV5, A4ZIW9,	No	<i>Triticum aestivum</i> , <i>Triticum dicoccoides</i> , <i>Aegilops tauschii</i> , <i>Triticum monococcum</i> , <i>Aegilops bicornis</i> , <i>Aegilops longissimi</i> , <i>Kengyilia kokonorica</i>

			A4ZIZ0, A4ZIZ6, A4ZIW6, A4ZIV8, A4ZIU3, A4ZIT6, A4ZIU6, A4ZIU7		
	LTAASVPEVCK	Alpha-amylase inhibitor 0.28	P01083, C4P661, C4P5F1, C4P5M9, C4P5V7, C4P5G2, C4P5X2, C4P5Y7, C4P5D0, C4P5W2, C4P5N6, C4P5S0, C4P5N1, C4P5Z0, C4P5C2, C4P5L9, C4P5P7, C4P5I4, C4P5K4, C4P652, C4P5E1, C4P5J9, C4P681, C4P5I8, C4P5G9, C4P5C4, C4P5W5, C4P627, C4P615, C4P5W7, C4P5U8, C4P5C9, C4P5D5, C4P5Y9, <b>C4P622</b> , C4P5R2, C4P5B9, C4P5X6, C4P684, C4P5V1, C4P639, C4P5H8, C4P5J2, C4P5A6, C4P5E6, C4P5R3, C4P5R6, C4P5D2, C4P5H6, C4P5L2, C4P586, C4P5A2, C4P5B7, C4P647, C4P5E5, C4P598, C4P5Z1, C4P5B6, C4P5S3, C4P617, C4P5N2, C4P5A1, C4P5G4, C4P5W6, C4P5E4, C4P623, C4P5D4, C4P665, C4P5C1, C4P5I2, C4P5J4, C4P591, C4P5F3, C4P593, C4P649, C4P5F6, C4P5U2, C4P599, C4P584, C4P583, X2KYP9, R7W9C2, C4P5R8, T1WHR6, C3VWV7, T1WHW1, T1WH20, T1WIN9, T1WHC3, T1WHE4, T1WIP7, T1WHD2, T1WH04, T1WI34, T1WHZ6, T1WH99, T1WIL2, T1WH95, T1WIM5, T1WI21, A4ZIX1, A4ZJ03, A4ZIW5, A4ZIV2, A4ZIT7, A4ZIV5, A4ZIW9, A4ZIZ0, A4ZIZ6, A4ZIW6, A4ZIV8, A4ZIU3, A4ZIT6, A4ZIU6, A4ZIU7, A0A1D6BDS7, A0A1D6BDS6, C4P5V6	No	<i>Triticum aestivum, Triticum dicoccoides, Aegilops tauschii, Triticum monococcum, Aegilops bicornis, Aegilops longissimi, Kengyilia kokonorica</i>
	SVYQELGVR	Alpha-amylase inhibitor 0.28	P01083, C4P661, C4P5F1, C4P5M9, C4P5G2, C4P5X2, C4P5Y7, C4P5I9, C4P5D0, C4P5W2, C4P5N6, C4P5S0, C4P5N1, C4P5F8, C4P5Z0, C4P5C2, C4P5L9, C4P5P7, C4P5I4, C4P5K4, C4P5J9, C4P681, C4P5K2, C4P5I8, C4P5V6, C4P5G9, C4P5C4, C4P5W5, C4P627, C4P615, C4P5K1, C4P5W7, C4P5U8, C4P655, C4P5C9, C4P5D5, C4P5E7, C4P5Y9, <b>C4P622</b> , C4P5R2, C4P5B9, C4P5X6, C4P684, C4P5V1, C4P639, C4P5J2, C4P5A6, C4P5Z6, C4P678, C4P5E6, C4P5R3, C4P5R6, C4P5D2, C4P5H6, C4P673, C4P5L2, C4P586, C4P5A2, C4P633, C4P5B7, C4P647, C4P5E5, C4P598, C4P5G0, C4P5Z1,	No	<i>Triticum aestivum, Triticum dicoccoides, Aegilops tauschii, Triticum monococcum, Aegilops bicornis, Aegilops longissimi, Kengyilia kokonorica</i>

			C4P594, C4P5B6, C4P5S3, C4P617, C4P5N2, C4P5A1, C4P5G4, C4P5W6, C4P5E4, C4P623, C4P5D4, C4P5C1, C4P5I2, C4P5J4, C4P629, C4P591, C4P5F3, C4P593, C4P649, C4P5F6, C4P5U2, C4P599, C4P584, C4P583, X2KYP9, R7W9C2, C3VWV7, A4ZIY9, A4ZIX1, A4ZJ03, A4ZIV1, A4ZIV2, A4ZIT7, A4ZIV5, A4ZIW9, A4ZIZ0, A4ZIZ6, A4ZIW6, A4ZIV8, A4ZIU3, A4ZIT6, A4ZIU6, A4ZIU7, A0A1D6BDS7, A0A1D6BDS6		
	VPIPNSPGDR	Alpha-amylase inhibitor 0.28	P01083, C4P5G2, C4P5X2, C4P5N6, C4P5N1, C4P5Z0, C4P5I4, C4P5K4, C4P652, C4P5J9, C4P681, C4P5K2, C4P5G9, C4P627, C4P615, C4P5W7, C4P5D5, C4P5Y9, <b>C4P622</b> , C4P5B9, C4P684, C4P5D2, C4P5L2, C4P5Z1, C4P617, C4P5W6, C4P5D4, C4P5C1, C4P5I2, C4P591, C4P5F3, C4P593, C4P649, X2KYP9, R7W9C2, A4ZIY9, A4ZIX1, D2TGC3, A4ZIW5, A4ZIV1, A4ZIV2, A4ZIT7, A4ZIV5, A4ZIW9, A4ZIZ6, A4ZIW6, A4ZIV8, A4ZIU3, A4ZIT6, A4ZIU6, A4ZIU7, A0A1D6BDS7, A0A1D6BDS6, C4P678, C4P661, C4P5F1, C4P5M9, C4P5V7, C4P5Y7, C4P5I9, C4P5D0, C4P5W2, C4P5S0, C4P5F8, C4P5C2, C4P5L9, C4P5P7, C4P5E1, C4P5I8, C4P5V6, C4P5C4, C4P5W5, C4P5K1, C4P5U8, C4P655, C4P5C9, C4P5E7, C4P5R2, C4P5X6, C4P5V1, C4P639, C4P5J2, C4P5A6, C4P5Z6, C4P5E6, C4P5R3, C4P5R6, C4P5H6, C4P673, C4P586, C4P5A2, C4P633, C4P5B7, C4P647, C4P5E5, C4P598, C4P5G0, C4P594, C4P5B6, C4P5S3, C4P5N2, C4P5A1, C4P5E4, C4P623, C4P665, C4P5J4, C4P629, C4P5F6, C4P5U2, C4P599, C4P584, C4P583, C4P5R8, A4ZJ03, A4ZIZ0	No	<i>Triticum aestivum</i> , <i>Triticum dicoccoides</i> , <i>Aegilops tauschii</i> , <i>Triticum monococcum</i> , <i>Aegilops bicornis</i> , <i>Aegilops longissimi</i> , <i>Kengyilia kokonorica</i>
	VVSALTGCR	Alpha-amylase inhibitor 0.28	P01083, C4P661, C4P5N1, <b>C4P622</b> , C4P5L9, C4P5F8, C4P5C2, C4P5D0, C4P5P7, C4P5W2, C4P5I4, C4P5Z0, C4P5Y7, C4P5I9, C4P5X2, C4P5G2, C4P5M9	No	<i>Triticum aestivum</i> , <i>Triticum dicoccoides</i> , <i>Aegilops tauschii</i> , <i>Triticum monococcum</i> , <i>Aegilops bicornis</i> , <i>Aegilops longissimi</i> , <i>Kengyilia kokonorica</i>

Q6S5B1	DYVLQQTCGTFTPGSK	Alpha-amylase/trypsin inhibitor CM3	P17314, M8BV45, Q53YX8, <b>Q6S5B1</b> , A0A1D5XLP1, A0A1D5Y0V2, A0A1S6KXP9	Yes	<i>Triticum aestivum, Aegilops tauschii, Triticum turgidum</i> subsp. durum
	EMQWDFVR	Alpha-amylase/trypsin inhibitor CM3	P17314, Q53YX8, <b>Q6S5B1</b>	Yes	<i>Triticum aestivum, Triticum turgidum</i> subsp. durum
	LLVAPGQCNLATHNVR	Alpha-amylase/trypsin inhibitor CM3	P11643, P17314, M8BV45, O23982, O24000, M0Y227, Q53YX8, <b>Q6S5B1</b> , A0A1S6KXP9	No	<i>Hordeum vulgare, Triticum aestivum, Aegilops tauschii, Triticum turgidum</i> subsp. durum
	LYCCQELAEISQQCR	Alpha-amylase/trypsin inhibitor CM3	P17314, Q53YX8, <b>Q6S5B1</b> , A0A1D5XLP1, A0A1S6KXP9	Yes	<i>Triticum aestivum, Triticum turgidum</i> subsp. durum
	SGNVGESGLIDLPGCPR	Alpha-amylase/trypsin inhibitor CM3	P17314, M8BV45, Q53YX8, <b>Q6S5B1</b> , A0A1S6KXP9	Yes	<i>Triticum aestivum, Aegilops tauschii, Triticum turgidum</i> subsp. durum
	TNLLPHCR	Alpha-amylase/trypsin inhibitor CM3	P17314, Q53YX8, <b>Q6S5B1</b> , A0A1D5XLP1, A0A1S6KXP9	Yes	<i>Triticum aestivum, Triticum turgidum</i> subsp. durum
	YFIALPVPSQPVDPR	Alpha-amylase/trypsin inhibitor CM3	P17314, Q53YX8, <b>Q6S5B1</b> , A0A1D5XLP1, A0A1S6KXP9	Yes	<i>Triticum aestivum, Triticum turgidum</i> subsp. durum
R7W9W1	*DLPGCPR	Alpha-amylase/trypsin inhibitor CM2	Short sequence. Unable to match any Uniprot ID	N/A	N/A
	*ELYDASQHCR	Alpha-amylase/trypsin inhibitor CM2	P16851, P16850, A0A1D6CFU7, A0A1D6D8Z1, <b>R7W9W1</b> , C7C4X0, D2TGC2,	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	EYVAQQTCGISISGSAVSTEP GNTPR	Alpha-amylase/trypsin inhibitor CM1	P16850, C7C4X0, A0A1D6D8Z1, <b>R7W9W1</b>	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	SDPNSSVLK	Alpha-amylase/trypsin inhibitor CM1	P16850, C7C4X0, A0A1D6D8Z1, <b>R7W9W1</b>	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	VLVTPGHCNVMTVHNAPY CLGLDI	Alpha-amylase/trypsin inhibitor CM1	C7C4X0, A0A1D6D8Z1, <b>R7W9W1</b>	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
Q5UHH6	ECCQQQLADISEWCR	0.19 dimeric alpha-amylase inhibitor	W5D003, Q4U1A1, Q4U199, Q4U1A3, Q4U195, C3VX08, C3VX11, <b>Q5UHH6</b> , Q5UHH8	No	<i>Triticum aestivum, Thinopyrum bessarabicum</i>
	EHGVQEQQAGTGAfpSCR	0.19 dimeric alpha-amylase inhibitor	W5D003, C3VWN4, C3VWP0, C3VWP9, C3VWM4, C3VWF0, C3VWJ5, <b>Q5UHH6</b> , Q5UHH8, L7P0M1	No	<i>Triticum aestivum, Triticum dicoccoides, Henrardia persica, Triticum timopheevii, Thinopyrum bessarabicum</i>
	LPIVIDASGDGAYVCK	0.19 dimeric alpha-amylase inhibitor	W5D003, T1WHZ1, T1WIJ6, T1WHQ5, T1WHU0, C3VWV0, C3VWV3, C3VWZ7, <b>Q5UHH6</b> , C3VWZ6	No	<i>Triticum aestivum, Kengyilia batalinii, Agropyron cristatum, Agropyron mongolicum, Eremopyrum bonaepartis, Triticum dicoccoides</i>

	LTAASITAVCK	0.19 dimeric alpha-amylase inhibitor	W5D003, T1WHZ1, T1WIJ6, T1WHQ5, T1WHU0, C3VWV0, C3VWV3, C3VWZ7, <b>Q5UHH6</b> , C3VWZ6	No	<i>Triticum aestivum, Kengyilia batalinii, Agropyron cristatum, Agropyron mongolicum, Eremopyrum bonaepartis, Triticum dicoccoides</i>
Q41540	IEMPGPPYLAK	Alpha-amylase/trypsin inhibitor CM16	<b>Q41540</b> , M8B9L0	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	NYVEEQACR	Alpha-amylase/trypsin inhibitor CM16	<b>Q41540</b> , M8B9L0	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	QECCEQLANIPQQCR	Alpha-amylase/trypsin inhibitor CM16	<b>Q41540</b> , M8B9L0	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	SRPDQSGLMELPGCPR	Alpha-amylase/trypsin inhibitor CMb	P32936, P16159, A0A287PVL8, A0A1D5XLP1, A0A1D5Y0V2, B5B0D5, <b>Q41540</b> , M8B9L0, B9VRI3, Q45FA6	No	<i>Secale cereale, Triticum macha, Aegilops tauschii, Triticum aestivum, Hordeum vulgare</i>
P16851	*EYVAQQTCGVGIVGSPVST EPGNTPR	Alpha-amylase/trypsin inhibitor CM2	<b>P16851</b> , D2TGC2, A0A1D6CFU7	Yes	<i>Triticum aestivum</i>
	*TSDPNNSGVLK	Alpha-amylase/trypsin inhibitor CM2	<b>P16851</b> , A0A1D6CFU7, D2TGC2	Yes	<i>Triticum aestivum</i>
	VLVTPGHCNVMTVHNTPYC LGLDI	Alpha-amylase/trypsin inhibitor CM2	<b>P16851</b> , D2TGC2	Yes	<i>Triticum aestivum</i>
B9VRI3	*DYVEQQACR	Alpha-amylase/trypsin inhibitor CM16	P32936, P16159, A0A287PVL8, B5B0D5, <b>B9VRI3</b>	No	<i>Hordeum vulgare, Triticum aestivum, Triticum macha</i>
	*EVQMDFVR	Alpha-amylase/trypsin inhibitor CM16	P32936, P16159, A0A287PVL8, B5B0D5, <b>B9VRI3</b>	No	<i>Hordeum vulgare, Triticum aestivum, Triticum macha</i>
	IETPGSPYLAK	Alpha-amylase/trypsin inhibitor CM16	P16159, B5B0D5, <b>B9VRI3</b>	Yes	<i>Triticum aestivum, Triticum macha</i>
	QQCCGELANIPQQCR	Alpha-amylase/trypsin inhibitor CM16	P32936, P16159, A0A287PVL8, B5B0D5, <b>B9VRI3</b> , Q45FA6	No	<i>Hordeum vulgare, Triticum aestivum, Triticum macha, Secale cereale</i>
C3VWC3	*DCCQQLADISEWCR	Dimeric alpha-amylase inhibitor	A0A1D5VPJ2, A0A077RSX3, A0A077RQ83, T1WHZ1, T1WIJ6, T1WHQ5, T1WHU0, C3VWZ7, C3VWZ6, <b>C3VWC3</b> , T1WH90	No	<i>Triticum aestivum, Kengyilia batalinii, Agropyron cristatum, Agropyron desertorum, Triticum dicoccoides, Henrardia persica</i>
	*EHGVSEGQAGTGFPSR	Alpha-amylase inhibitor 0.53	P01084, A0A077RSX3, C3VWL1, C3VWC7, C3VWE8, C3VWL3, C3VW70, C3VWD7, C3VWB8, C3VW96, <b>C3VWC3</b> , C3VWE6	No	<i>Triticum aestivum, Kengyilia batalinii, Agropyron cristatum, Agropyron desertorum, Triticum dicoccoides, Henrardia persica</i>
N1QTW5	ELAAISSNCR	Trypsin inhibitor CMc	P83207, A0A1D6D575, <b>N1QTW5</b>	Yes	<i>Triticum aestivum</i>

M8BV45	*LYCCQELAEIPQQCR	Alpha-amylase/trypsin inhibitor CM3	P11643, <b>M8BV45</b> , M0Y227, A0A1D5Y0V2	No	<i>Hordeum vulgare, Aegilops tauschii, Triticum aestivum</i>
	*TDLLPHCR	Alpha-amylase/trypsin inhibitor CM3	<b>M8BV45</b> , A0A1D5Y0V2	Yes	<i>Aegilops tauschii, Triticum aestivum</i>
P93602	AEEGHVVEGR	PUP88 protein; member of trypsin/a-amylase inhibitors family from cereals	A0A1D6B7P2, <b>P93602</b> , M8CNM0, A0A1D6AS82	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
	ELAVVPDYCR	PUP88 protein; member of trypsin/a-amylase inhibitors family from cereals	A0A1D6B7P2, <b>P93602</b> , M8CNM0	Yes	<i>Triticum aestivum, Aegilops tauschii</i>
M8A1S2	*EFIAGIVGR	Trypsin/alpha-amylase inhibitor CMX2	Q43691, Q43723, <b>M8A1S2</b> , M8BAK8, M8B2U4, A0A1D5XMK2, A0A1D6RXD1	Yes	<i>Triticum aestivum, Triticum Urartu, Aegilops tauschii</i>
	*EITYESLNACR	Trypsin/alpha-amylase inhibitor CMX1/CMX3	<b>M8A1S2</b>	Yes	<i>Triticum aestivum</i>
	QTCGYYLSAER	Trypsin/alpha-amylase inhibitor CMX1/CMX3	Q43691, Q43723, <b>M8A1S2</b> , M8BAK8, M8B2U4, A0A1D5XMK2, A0A1D6RXD1	Yes	<i>Triticum aestivum, Triticum Urartu, Aegilops tauschii</i>
	EECNLETVFGR	Trypsin/alpha-amylase inhibitor CMX1/CMX3	<b>M8A1S2</b> , M8B2U4, A0A1D5XMK2	Yes	<i>Triticum aestivum, Triticum Urartu, Aegilops tauschii</i>
A4GG11	LPNVVDASGDGAYVCK	Dimeric alpha-amylase inhibitor	<b>A4GG11</b>	Yes	<i>Aegilops longissima</i>
C4P5B7	DCCQQLADINDEWCR	Monomeric alpha-amylase inhibitor	<b>C4P5B7</b>	Yes	<i>Triticum dicoccoides</i>
A0A1D5Y0V2	YFMGPK	N/A	Unable to match any Uniprot ID due to short sequence.	N/A	N/A
A0A1D5UB33	ELEAVSEECR	Uncharacterized protein	A0A1D5UB33, A0A1D5TQ92, <b>A0A1D5Y0V2</b>	Yes	<i>Triticum aestivum</i>
	LEGVPEGCTR	Uncharacterized protein	A0A1D5UB33, M7YQH9, <b>A0A1D5Y0V2</b>	Yes	<i>Triticum aestivum, Triticum urartu</i>
Q6S5B1	LPEWMTSASIYSPGKPYLA	Alpha-amylase/trypsin inhibitor CM3	P17314, Q53YX8, <b>Q6S5B1</b> , A0A1D5XLP1, A0A1S6KXP9	Yes	<i>Triticum aestivum, Triticum turgidum subsp. Durum</i>