

Table S1. Consensus of linear and conformational IgE binding epitopes of five LTP allergens, along with the experimentally validated B-cell epitopes of Peach LTP.

PEACH			
Consensus of predicted linear and conformational B-cell epitopes of Peach LTP			
S. No.	Predicted B-cell epitopes	Position	Prediction servers
1	ITCGQVSSSLAPCIPYVRGGGAV	28-50	ABCpred, BCEPred, BepiPred 2.0, LBtope, COBEpro, SVMTriP, <i>iBCE-EL</i> and CBTOPE
2	IRNVNNLARTTPDRQAAC	58-75	
3	CGVSIPYKIS	100-109	
Experimentally validated B-cell epitopes of Peach LTP, García-Casado et al., 2003			
1	APCIPYVRGGGAVPP	11-25	Validated via. IgE binding studies
2	IRNVNNLARTTPDRQ	31-45	
3	GKCGVSIPYK	71-80	
GARDEN PEA			
Consensus of predicted linear and conformational B-cell epitopes of garden pea LTP			
S. No.	Predicted B-cell epitopes	Position	Prediction servers
1	QAPNNASPPP	44-53	ABCpred, BCEPred, BepiPred 2.0, LBtope, COBEpro, SVMTriP, <i>iBCE-EL</i> and CBTOPE
2	IPKLNTNNA	86-96	
3	GVSIPYKISTSTNCNTV	102-118	
LENTIL			
Consensus of predicted linear and conformational B-cell epitopes of lentil LTP			
S. No.	Predicted B-cell epitopes	Position	Prediction servers
1	KGGPGPSPQC	44-53	ABCpred, BCEPred, BepiPred 2.0, LBtope, COBEpro, SVMTriP, <i>iBCE-EL</i> and CBTOPE
2	TIDRRA	67-72	
3	LPGKCGVR	95-102	
GREEN BEAN			
Consensus of predicted linear and conformational B-cell epitopes of green bean LTP			
S. No.	Predicted B-cell epitopes	Position	Prediction servers
1	NSARSTADRRG	60-70	ABCpred, BCEPred, BepiPred 2.0, LBtope, COBEpro, SVMTriP, <i>iBCE-EL</i> and CBTOPE
2	LPGKCGVNIPYKISTSTN	93-110	
PEANUT			
Consensus of predicted linear and conformational B-cell epitopes of peanut LTP			
S. No.	Predicted B-cell epitopes	Position	Prediction servers
1	GVSIPYKISTSTN	98-110	ABCpred, BCEPred, BepiPred 2.0, LBtope, COBEpro, SVMTriP, <i>iBCE-EL</i> and CBTOPE

Table S2. Peptide similarity search of the predicted epitopes of chickpea and mung-bean LTP with the known allergens in SDAP database. Only those similarity hits of the predicted B-cell epitopes of LTPs with peptides of known allergens, were included which displayed a PD value of less than 4.

Chickpea LTP				
Epitope 1: APCLGYLQGGPGPSAQ				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Wheat Tri a 14	3.78	11	RPCLSYVQGGPGPSGQ	26

Lentil Len c 3	3.95	37	SPCLTYLTGGPGPSPQ	52
Epitope 2: RNLNSAAVTTPDRQA				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Green Bean Pha v 3	3.34	58	RSLNAAAKTTPDRQA	72
Peach Pru p 3	3.73	32	RNVNNLARTTPDRQA	46
Strawberry Fra a 3	3.84	58	RSLNSAAKTADRQA	72
Epitope 3: ISRLNANNAALPGKCVVNIPYKISTSTNC				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Lentil Len c 3	1.99	84	ITKLNTNNAALPGKCGVNIPYKISTTTNC	113
Apricot Pru ar 3	3.28	58	ISGVNPNNAAALPGKCGVNIPYKISASTNC	87
Cherry Pru av 3	3.42	84	VPGVNANNAALPGKCGVNPYKISPSTNC	113
Apple Mal d 3	3.64	82	ISGVNPNNAAAGLPGKCGVNPYKISTSTNC	111
Green bean Pha v 3	3.84	82	VRGLNPNNAAALPGKCGVNIPYKISTSTNC	111
Plum Pru d 3	3.92	58	IPGVNPNNAAALPGKCGVNPYKISASTNC	87
Mung-bean LTP				
Epitope 1: ITCGQVASSLAPCISYLQKGGVPSA				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Mulberry Mor n 3	3.70	1	ITCGQVSSSLAPCINYLRAAGGVVPA	25
Peanut Ara h 9	3.85	1	LSCGQVNSALAPCITFLTKGGVPSG	25
Epitope 2: LNSAASTTADRK				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Strawberry Fra a 3	2.14	60	LNSAAKTADRQ	71
Maize Zea m 14	2.72	63	LNNAARTTADRR	74
Mulberry Mor n 3	2.79	34	LNNAAKTADRQ	45
Rubber latex Hev b 12	3.32	59	INNAAKTADRR	70
Epitope 3: CLKNLAGPKSGINEGNAASLPGKCKVNPY				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Pear Pyr c 3	3.74	74	CLKNLAGSVSGVNPNGNAESLPGKCGVNPY	103
Apple Mal d 3	3.83	74	CLKNLAGSISGVNPNNAAAGLPGKCGVNPY	103
Cowpea LTP				
Epitope 1: AEAVTCN				
Allergen	PD Sequence Similarity Index	Start Residue	Matching region	End Residue
Wheat Tri a 18	3.55	200	AEAITAN	206
Pear Pyr c 3	3.84	22	AHAITCS	28

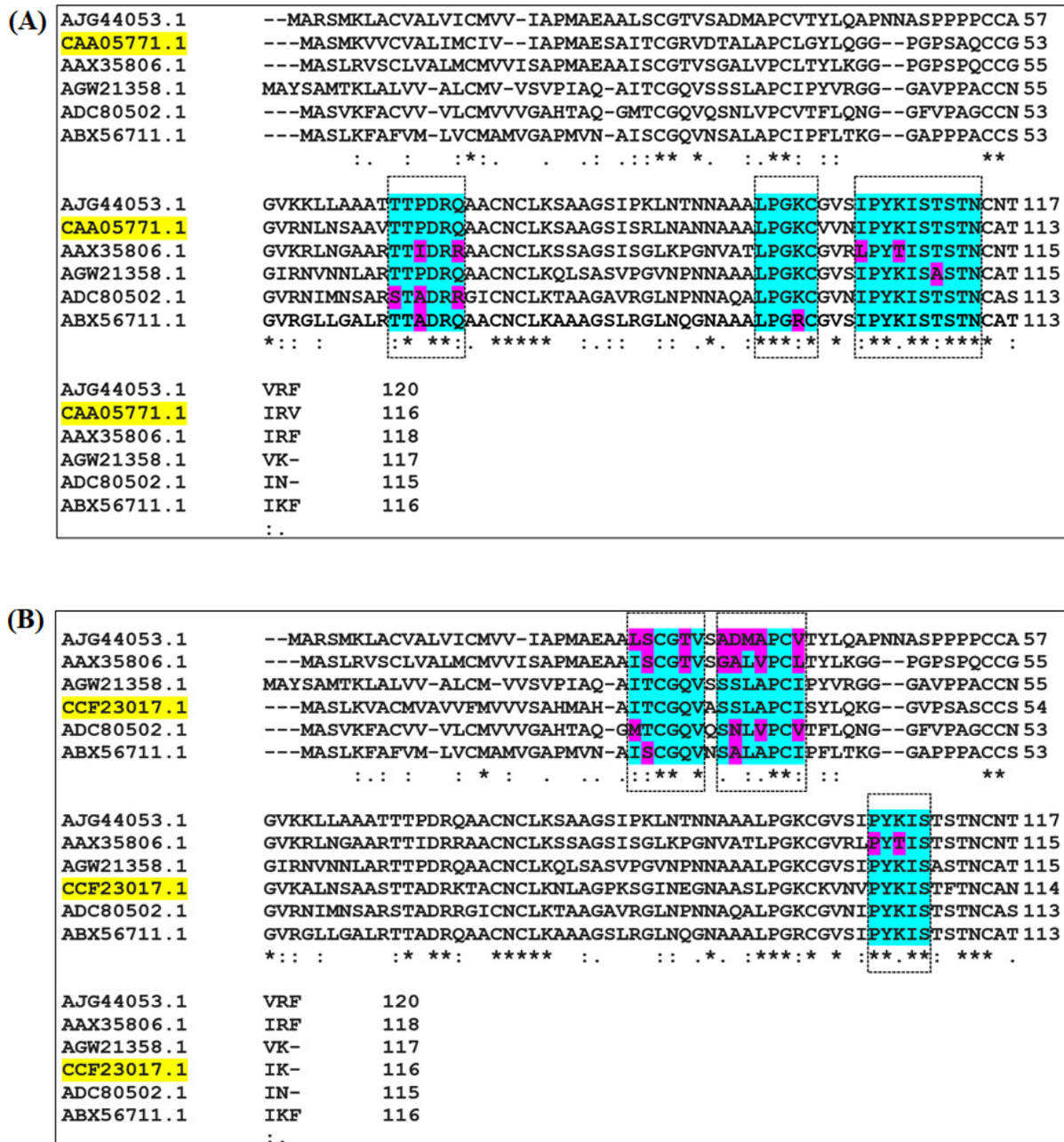


Figure S1. Multiple sequence alignment (MSA) of the query protein with five allergenic LTPs, fully and partially conserved residues are denoted by ‘*’, ‘:’ & ‘.’ (A) & (B) Chickpea and mung-bean LTPs (accession no.), respectively were highlighted in yellow and the corresponding epitopic regions common to the query protein and the reported allergens were marked in cyan, while the partially conserved residues were marked in magenta.

(C)

XP_003549896.1	MKMGG--GCKCLVSLVLALVLMRSLAEAQSGSSTTCAQELIPC�NFLNGT--TTPPSSCC	56
AJG44053.1	--MARSMKLACVALVICMVV-IAPMAEA-ALSCGTVSADMAPCVTYLQAPNNASPPPPCC	56
AAX35806.1	---MASLRVSCLVALMCMVVISAPMAEA-AISCGTVSGALVPCLTYLKGG--PGPSPQCC	54
AGW21358.1	MAYSAMTKLALVV-ALCMV-VSVPIAQ--AITCGQVSSSLAPCIPYVRGG--GAVPPACC	54
ADC80502.1	---MASVKFACVV-VLCMVVVGHAHTAQ--GMTCGQVQSNLVPCVTFLQNG--GFVPAGCC	52
ABX56711.1	---MASLKFAFVM-LVCMAMVGAPMVN--AISCGQVNSALAPCIPFLTKG--GAPPPACC	52
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XP_003549896.1	DPLKQTV-----ENQLDCLCNIFTFSPGLLQSFNVSDQALALSRRCGVTNGITSCNTG	109
AJG44053.1	AGVKKLLAAATTPDRQAACNCLKSA-AGSIPK--LNTNNAALPGKCGVSIPIKISTST	113
AAX35806.1	GGVKRLNGAARTTIDRRAACNCLKSS-AGSISG--LKPGNVATLPGKCGVRLPYTISTST	111
AGW21358.1	NGIRNVNRLARTTPDRQAACNCLKQL-SASVPG--VNPNNAAALPGKCGVSIPIKISAST	111
ADC80502.1	NGVRNIMNSARSTADRRGICNCLKTA-AGAVRG--LNPNNAAALPGKCGVNIPIKISTST	109
ABX56711.1	SGVRGLLGALRTTADRQAACNCLKAA-AGSLRG--LNQGNAAALPGRCGVSIPIKISTST	109
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XP_003549896.1	SAPAPGSGPPPVTGGDKGGAGRVTFGLSFLLLFWVSMFLN	151
AJG44053.1	NC-----NTVRF-----	120
AAX35806.1	NC-----NTIRF-----	118
AGW21358.1	NC-----ATVK-----	117
ADC80502.1	NC-----ASIN-----	115
ABX56711.1	NC-----ATIKF-----	116
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Figure S2: Multiple sequence alignment (MSA) of the query protein with five allergenic LTPs, fully and partially conserved residues were denoted by ‘*’, ‘.’ & ‘.’ (A), (B) & (C) Cowpea, Pigeonpea & Soybean LTPs, respectively (corresponding accession numbers highlighted in yellow).