

Supplementary materials

Table S-I.

Group Patient code	Sex	Age	SPT to Shrimp	slgE Shrimp (kU _A /L)	SPT to DPT	slgE DPT (kU _A /L)	Total IgE (kU _A /L)	Symptoms
Control group								
C 1	F	28	-	0	-	0	94	T
C 2	M	41	-	0	-	0	389	T
C 3	M	39	-	0	-	0	27	T
C 4	F	22	-	0	-	0	131	T
C 5	F	23	-	0	-	0	65	T
C 6	M	45	-	0	+	69	237	T
C 7	M	44	-	0	+	83.6	432	T
C 8	F	38	-	0	+	61	236	T
C 9	F	34	-	0	+	95	1257	T
C 10	F	35	-	0	+	13.8	1537	T
Sensitized - non allergic								
S-nA 1	F	49	+	4,96	+	0.68	1297	T
S-nA 2	M	34	+	0,79	+	8.28	525	T
S-nA 3	F	32	+	0,81	+	17.7	206	T
S-nA 4	M	64	+	6,62	+	5.82	1951	T
S-nA 5	M	62	+	5,11	+	3.09	1837	T
S-nA 6	M	40	+	0,51	+	35.1	473	T
S-nA 7	F	49	+	3,71	+	10.4	239	T
S-nA 8	M	27	+	1,32	+	60.5	1052	T
S-nA 9	M	43	+	6,8	+	100	540	T
S-nA 10	F	38	+	0,61	+	35.1	374	T
S-nA 11	M	37	+	3,24	+	40	816	T
S-nA 12	M	25	+	8,5	+	64	821	T
S-nA 13	F	30	+	0,4	+	91	1872	T
S-nA 14	F	43	+	2,8	-	0	201	T
S-nA 15	M	40	+	2,6	+	23	411	T
S-nA 16	F	37	+	0,45	-	0	43	OAS
S-nA 17	F	30	+	0,76	+	2.83	195	OAS,U,AE
S-nA 18	F	22	+	0,59	+	6.2	94	OAS,AE
S-nA19	M	34	+	0,68	+	18.1	68	U, Dig.S
S-nA 20	M	31	+	2,1	-	0	116	U
S-nA 21	F	55	+	2,14	+	11.1	874	AE, Dig.S
Sensitized allergic								
S-A 1	M	27	+	0,96	+	68.6	676	OAS,U
S-A 2	F	58	+	0.79	+	61.7	314	OAS,AE,V.Inh
S-A 3	M	20	+	6.58	+	3.4	98	OAS,U,AE
S-A 4	M	44	+	4.63	+	4.63	316	OAS,U,AE
S-A 5	M	29	+	0.96	+	100	866	OAS,AE
S-A 6	F	23	+	4.91	+	1.19	219	U,AE
S-A 7	F	31	+	16.81	+	98	626	OAS
S-A 8	F	41	+	1.11	+	16.9	90.6	AFX
S-A 9	F	36	+	79.9	+	100	532	AFX
S-A 10	F	44	+	0.44	+	29.2	160	AFX
S-A 11	M	21	+	55.6	+	72.2	476	AFX
S -A 12	F	39	+	0.8	-	0	81	AFX
S-A 13	F	32	+	0.67	+	13.1	102	AFX
S-A 14	M	20	+	1.51	-	0	356	AFX
S-A 15	M	35	+	2.63	+	18.4	1495	AFX
S-A 16	F	49	+	4.04	-	0	841	AFX
S-A 17	F	42	+	10.82	+	1.76	98	AFX
S-A 18	M	32	+	32.5	+	4.49	71.5	AFX
S-A 19	M	29	+	2.98	+	26.4	1101	AFX
S-A 20	M	26	+	0.91	+	1.2	104	AFX
S-A 21	M	19	+	1.5	+	22	235	AFX
S-A 22	M	39	+	13.9	+	11.4	187	AFX

Table S-I . Characteristics of the subjects recruited for the study.

Sex : female(F) or male (M). Skin prick test (SPT). sIgE (specific IgE). *Dermatophagoides pteronyssinus* (DPT)
Symptoms presented after shrimp intake: T-tolerance, OAS-Oral allergy syndrome, U-urticaria, AE-angioedema, Dig.S-
digestive symptoms, V.Inh- vapour inhalation symptoms, AFX- anaphylaxis. - : Negative or absence. +: Positive or
presence. The subject code (ID) is the result of the acronym of the group to which it belongs plus the subject order
number.

Table S-II

NAPT	S-A	S-nA	
Positive	18	2	20
% Row	90.0%	10.0%	
% Column	90.0%	11.1%	
% Total	47.4%	5.3%	52.7%
Negative	2	16	18
% Row	11.1%	88.9%	
%Column	10.0%	88.9%	
% Total	5.3%	42.0%	47.3%
	20	18	38
	52.7%	47.3%	100%

Test	Fisher's exact test	
P value	<.0001	
	Value	95% CI
Sensitivity	0.9000	0.6990 to 0.9822
Specificity	0.8889	0.6720 to 0.9803
Positive Predictive Value	0.9000	0.6990 to 0.9822
Negative Predictive Value	0.8889	0.6720 to 0.9803
Likelihood Ratio positive	8.100	
Likelihood Ratio negative	0.100	

Table S-II. Two-by-two contingency table to calculate the sensitivity, specificity, positive predictive value, negative predictive values, and likelihood ratios of the test.

Values and the confidence interval are shown.

NAPT : Nasal Allergen Provocation test. S-nA : sensitized non allergic. S-A : sensitized- allergic

	Subject code	Objective measurement: AcRh						Subjective measurement: VAS					
		B	P-SS	P-1:100	P-1:10	P-1:1	Final PDVol2	B	P-SS	P-1:100	P-1:10	P-1:1	Final VAS
CONTROL GROUP NON ATOPIC	C 1	2.9 cm ³ 103.8 %	2.8 cm ³ 100 %	2.8 cm ³ 98.6 %	2.8 cm ³ 100.3%	2.7cm ³ 97.9 %	-2.1 %	0	0	0	0	0	0
	C 2	6.4 cm ³ 97.9 %	6.5 cm ³ 100%	6.6 cm ³ 100%	6.5 cm ³ 99.1%	6.4 cm ³ 98.6%	-1.4 %	0	0	0	0	0	0
	C 3	6.1 cm ³ 98.1 %	6.2cm ³ 100 %	5.9cm ³ 95.2 %	5.75cm ³ 92.7%	5.84cm ³ 94.2%	-7.3 %	0	21	21	21	21	0
	C 4	2.3 cm ³ 95 %	2.4 cm ³ 100 %	2.4 cm ³ 101.6 %	2.3 cm ³ 97.5 %	2.5 cm ³ 103.3 %	+3.3 %	0	0	0	0	0	0
	C 5	3.8cm ³ 107.3 %	3.5cm ³ 100 %	3.4cm ³ 97.1 %	3.3 cm ³ 94.3 %	3.2 cm ³ 93.7 %	-6.2 %	0	34	38	38	38	4
CONTROL GROUP HDM SENSITIZED	C 6	4.9 cm ³ 108.8 %	4.8 cm ³ 100%	4.8 cm ³ 97.3 %	4.7 cm ³ 95.7 %	4.4 cm ³ 89.9 %	-10 %	0	0	0	0	0	0
	C 7	4.7 cm ³ 112.6 %	5.3 cm ³ 100 %	5.4 cm ³ 102.4 %	4.9 cm ³ 92.4 %	5.2 cm ³ 97.9 %	-7.5 %	0	29	29	36	41	12
	C 8	5.7 cm ³ 90.2 %	5.2 cm ³ 100 %	4.8 cm ³ 94 %	4.9 cm ³ 95 %	4.9 cm ³ 94.5%	-6.2 %	0	0	0	0	0	0
	C 9	19.7 cm ³ 108.3 %	17.7 cm ³ 100 %	17.8 cm ³ 100.6 %	18 cm ³ 101.6%	17.5 cm ³ 98.9 %	-1.1 %	0	0	0	0	0	0
	C 10	3.2 cm ³ 92.1 %	3.9 cm ³ 100 %	4.3 cm ³ 109.6 %	4.5 cm ³ 113.3%	4.3 cm ³ 108.3 %	+8.3 %	0	0	0	0	0	0
S-nA GROUP Recruited as tolerant.	S-nA 1	9 cm ³ 107.6 %	8.4 cm ³ 100 %	8.3 cm ³ 99.3 %	7.7 cm ³ 92 %	7.1 cm ³ 84.8 %	-15.2 %	0	0	15	15	15	15
	S-nA 2	3.4 cm ³ 103.3 %	3.3 cm ³ 100 %	2.9 cm ³ 87.4 %	2.9 cm ³ 87.8 %	2.5 cm ³ 76.3 %	-23.7 %	0	0	0	0	0	0
	S-nA 3	2.7 cm ³ 95.8 %	2.9 cm ³ 100 %	2.8 cm ³ 97.2 %	2.8 cm ³ 97.9 %	2.8 cm ³ 96.9 %	-3.1 %	0	0	0	0	0	0
	S-nA 4	4.2 cm ³ 108.6 %	3.8 cm ³ 100 %	3.8 cm ³ 97.9 %	3.7 cm ³ 97.1 %	3.3 cm ³ 86.2 %	-13.8 %	0	51	51	65	65	14
	S-nA 5	6.4 cm ³ 97.9 %	6.6 cm ³ 100 %	6.7 cm ³ 102 %	6.4 cm ³ 97.6 %	6.3 cm ³ 95.1 %	-4.9 %	0	0	0	0	0	0
	S-nA 6	5.9 cm ³ 85.1 %	6.7 cm ³ 100 %	7 cm ³ 100 %	7.1 cm ³ 101.9%	7.2 cm ³ 102.7 %	+2.8 %	0	0	0	0	0	0
	S-nA 7	4.9 cm ³ 92.2 %	5.9 cm ³ 100 %	5.5 cm ³ 92.1 %	5.2 cm ³ 87.8 %	5.3 cm ³ 88.9 %	-11 %	0	0	0	0	0	0
	S-nA 8	4.3 cm ³ 108.2 %	4 cm ³ 100 %	4.8 cm ³ 120.1 %	4.8 cm ³ 120.1%	5.2 cm ³ 128.6 %	+28.6 %	0	0	0	0	0	0
	S-nA 9	4.4 cm ³ 108.9 %	4 cm ³ 100 %	3.9 cm ³ 97.8 %	3.5 cm ³ 88 %	4 cm ³ 99 %	-1 %	0	0	0	0	0	0
	S-nA 10	5.9 cm ³ 101.2 %	5.8 cm ³ 100 %	5.8 cm ³ 97.9 %	5.7 cm ³ 97.9 %	4.2 cm ³ 72.3 %	-27.6 %	0	0	0	0	33	33
	S-nA 11	3.1 cm ³	2.9 cm ³	2.9 cm ³	2.6 cm ³	2.5 cm ³		0	21	12	26	33	12

S-nA GROUP Recruited as allergic (DBPCFC -)		107 %	100 %	92.3 %	92.3 %	87.4 %	-12.5 %						
	S-nA 12	9 cm ³ 107.6 %	8.4 cm ³ 100 %	7.8 cm ³ 89.4 %	7.6 cm ³ 91.1 %	7.8 cm ³ 89.4 %	-11.6 %	0	0	0	0	0	0
	S-nA 16	7.1 cm ³ 90.4 %	8.8 cm ³ 100 %	8.8 cm ³ 94 %	8 cm ³ 91.3 %	5.8 cm ³ 65.7 %	-34.3 %	0	0	0	0	9	9
	S-nA 17	1.7 cm ³ 93 %	1.9 cm ³ 100 %	1.9 cm ³ 102 %	2 cm ³ 110 %	2.4 cm ³ 130 %	+11.5	0	0	0	0.5	17	17
	S-nA 18	3.4 cm ³ 106.9%	3.15 cm ³ 100%	3.15 cm ³ 96.5%	2.9 cm ³ 94.3%	1.8 cm ³ 56.8%	43.2 %	0	0	0	12	24	24
	S-nA 19	7.2 cm ³ 102.1 %	7.05 cm ³ 100 %	7.0 cm ³ 98.8 %	7.0 cm ³ 98.8 %	7.05 cm ³ 100 %	+0.1 %	0	0	0	0	0	0
	S-nA20	2.3 cm ³ 90.3 %	2.6 cm ³ 100 %	2.6 cm ³ 110.1 %	2.5 cm ³ 97.3 %	2.15 cm ³ 83.3 %	-16.7 %	0	20	29	29	29	09
S-nA 21	4.45 cm ³ 105.6 %	4.2 cm ³ 100 %	4.2 cm ³ 96 %	3.9 cm ³ 93.8 %	3.2 cm ³ 76.8 %	-23.2 %	0	3	3	8	11	8	
S-A GROUP Recruited as allergic (DBPCFC +)	S-A 1	4.5 cm ³ 111.9 %	4 cm ³ 100 %	3.3 cm ³ 80.9 %	2 cm ³ 50.3 %		-49.6 %	0	0	4	29		29
	S-A 2	4.2 cm ³ 107.6 %	3.9 cm ³ 100 %	2.9 cm ³ 74.8 %	1.9 cm ³ 48.3 %		-51.7 %	0	0	8	43		43
	S-A 3	7.1 cm ³ 85.3 %	8.3 cm ³ 100 %	7.9 cm ³ 95.8 %	7.8 cm ³ 93.4 %	4.9 cm ³ 58.5 %	-41.5 %	0	0	0	22	74	74
	S-A 4	9.3 cm ³ 97.4 %	9.6 cm ³ 100 %	8.3 cm ³ 86.6 %	5.9 cm ³ 62.2 %		-37.7 %	0	12	12	85		73
	S-A 5	3.1 cm ³ 101.6 %	3 cm ³ 100 %	3.1 cm ³ 103 %	3.1 cm ³ 103 %	2.2 cm ³ 72.6 %	-27.4 %	0	2	10	10	35	33
	S-A 6	5.7 cm ³ 86.9 %	6.6 cm ³ 100 %	5.4 cm ³ 82.6 %	4.2 cm ³ 63.8 %		-36.2 %	5	11	22	68		57
S-A GROUP Recruited as AFX.	S-A 8	5.1 cm ³ 108.9 %	4.7 cm ³ 100 %	3.1 cm ³ 67.3 %			-32.7 %	0	0	25			25
	S-A 9	3.5 cm ³ 106.1 %	3.3 cm ³ 100 %	2.9 cm ³ 88.4 %	2.1 cm ³ 65.7 %		-34.3 %	0	0	0	31		31
	S-A 10	4.1 cm ³ 112 %	3.7 cm ³ 100 %	3.6 cm ³ 97.8 %	2.3 cm ³ 62.3 %		-37.7 %	0	0	0	24		24
	S-A 11	3.3 cm ³ 103.1 %	3.2 cm ³ 100 %	2.8 cm ³ 87.2 %	2.3 cm ³ 72.2 %		-27.8 %	0	0	10	32		32
	S-A 12	2.9 cm ³ 95.6 %	3 cm ³ 100 %	2.6 cm ³ 88.6 %	2.6 cm ³ 88.6 %	2.7 cm ³ 91.9 %	-11.4 %	0	0	0	0	0	0
	S-A 13	3.5 cm ³ 102.7 %	3.6 cm ³ 100 %	3.6 cm ³ 100.3 %	3.7 cm ³ 102.7%	2.5 cm ³ 67.9 %	-32.1 %	0	4	16	12	29	25
	S-A 14	3.3 cm ³ 98.9 %	3.3 cm ³ 100 %	3 cm ³ 91.3 %	1.8 cm ³ 54.5 %		-45.5 %	0	0	0	36		36
	S-A 15	5.1 cm ³ 107.3 %	4.8 cm ³ 100 %	4.9 cm ³ 102.7 %	4.1 cm ³ 86.4 %	3.9 cm ³ 81.9 %	-18.1 %	4	0	0	21	53	53
	S-A 16	5.7 cm ³ 108.9 %	5.3 cm ³ 100 %	4.4 cm ³ 82.9 %	1.8 cm ³ 34.4 %		-65 %	0	6	0	75		69
	S-A 17	7.2 cm ³ 98.2 %	7.3 cm ³ 100 %	7.4 cm ³ 101.1 %	7 cm ³ 96 %	5.6 cm ³ 75.8 %	-24.1 %	0	6	11	31	39	33
	S-A 18	8.4 cm ³ 96.1 %	8.8 cm ³ 100 %	6.2 cm ³ 71.2 %			-28.8 %	0	0	43			43

S-A 19	5.6 cm ³ 102.9 %	5.5 cm ² 100 %	5.3 cm ³ 97.1 %	4 cm ³ 72.5 %	/	-27.5 %	0	11	24	64	/	53
S-A 20	7.5 cm ³ 103.8 %	7.2 cm ³ 100 %	3.1 cm ³ 43 %	/	/	-57 %	0	0	36	/	/	36
S-A 21	5.9 cm ³ 101.2 %	5.8 cm ³ 100 %	4.9 cm ³ 84.3 %	3.2 cm ³ 55.1 %	/	-45 %	0	0	0	29	/	29

TableS-III. Individual values during the nasal allergen provocation test execution.

Shown : basal values (B), those obtained after instillation of the saline serum (P-SS), and those obtained after cooked shrimp mixture in the three concentrations (P-1:100, P-1:10, and P-1:1) instillation. Both those obtained after performing the acoustic rhinometry (AcRh), in absolute value (cm³), and in percentage, and the visual analogue scale (VAS). The difference between the value considered positive and the value obtained after instillation of SS (P-SS) are shown as the final PDVol2 (percentage decrease in Volume 2) and VAS values.

The subject code is the result of the acronym of the group to which it belongs plus the subject order number. Diagonal line in unrealized determination.

Subjects S-nA14, S-nA15, S-A7, and S-A22, were removed because of hyperreactive response with saline solution.

Groups		Objective measurement: AcRh						Subjective measurement: VAS					
		B	P-SS	P-1:100	P-1:10	P-1:1	Final PDVol2	B	P-SS	P-1:100	P-1:10	P-1:1	Final VAS
C group Non atopic	Median values	100.4% ± 5	100 %	98.5% ± 2.5	96.8 % ± 3.2	97.55 % ± 3.8	-2.7% ±4.2	0	11 ±16	11.8 ±17	11.8 ±17	11.8 ±17	0.8 ±1.3
C group HDM +	Median values	100.3 % ± 8.6	100%	100.8 % ±5.9	99.7 % ±8.2	97.9 % ±6.8	-3.3% ±7.2	0	5.8 ±13	5.8 ±13	7.2 ±16	8.2 ±18	2.42 ±5
C group Median values		100.4 % ±6.62	100%	99.4 % ±4.4	98.2 % ±6.1	97.7 % ±5.2	-3.0% ±5.6	0	8.4 ±14	8.8 ±15	9.5 ±16	10 ±17	1.6 ±4
S-nA group median values		100.7 % ± 7.7	100 %	95.6 % ± 7.3	96.1 % ± 8.4	90.2 % ±18.7	-11.4% ±16.8	0	5.3 ±13	6.1 ±14	8.9 ±17	13.1 ±18	7.8 ±10
S-A group median values		102.2 % ±5.9	100 %	85.3 % ±14.7	68.5 % ±19.7	62.1 % ±12.2	-36.5% ±13.1	0.45 ±1	2.6 ±4	9.8 ±13	35.8 ±23	38.2 ±29	39.9 ±19

TableS-IV. Group values during the nasal allergen provocation test execution.

Shown : basal values (B), those obtained after instillation of the saline serum (P-SS), and those obtained after cooked shrimp mixture in the three concentrations (P-1:100, P-1:10, and P-1:1) instillation. Both those obtained after performing the acoustic rhinometry (AcRh), in absolute value (cm³), and in percentage, and the visual analogue scale (VAS). The difference between the value considered positive and the value obtained after instillation of SS (P-SS) are shown as the Final-PDVol2 (percentage decrease in Volume 2) and Final-VAS values.

C group : control group HDM+ : sensitized to house dust mites. S-nA: sensitized non allergic . S-A. : sensitized allergic.

Table S-V

Control group	SPT to s-Mix 1:100	SPT to s-Mix 1:10	SPT to s-Mix 1:1
C 1	0	0	0
C 2	0	0	0
C 3	0	0	0
C 4	0	0	0
C 5	0	0	0
C 6	0	0	0
C 7	0	0	0
C 8	0	0	0
C 9	0	0	0
C 10	0	0	0
Sensitized -non allergic group			
S-nA 1	0	1	3
S-nA 2	1	2	3
S-nA 3	0	1	2
S-nA 4	0	2	3
S-nA 5	0	1	2
S-nA 6	0	1	3
S-nA 7	2	3	3
S-nA 8	0	0	2
S-nA 9	0	1	2
S-nA 10	0	2	3
S-nA 11	1	3	3
S-nA 12	1	2	3
S-nA 13	0	0	0
S-nA 14	0	2	3
S-nA 15	1	2	3
S-nA 16	0	1	2
S-nA 17	0	0	2
S-nA 18	0	2	3
S-nA 19	0	0	2
S-nA 20	0	1	2
S-nA 21	0	1	3
Sensitized allergic group			
S-A 1	2	3	3
S-A 2	3	3	3
S-A 3	3	3	3
S-A 4	0	2	3
S-A 5	0	2	2
S-A 6	3	3	3
S-A 7	0	1	2
S-A 8	1	3	3
S-A 9	2	3	3
S-A 10	2	3	3
S-A 11	2	3	3
S-A 12	0	0	2
S-A 13	1	2	3
S-A 14	2	3	3
S-A 15	3	3	3
S-A 16	2	3	3
S-A 17	0	2	3
S-A 18	3	3	3
S-A 19	2	3	3
S-A 20	2	3	3
S-A 21	0	1	3
S-A 22	0	2	3

Table S-V. Freeze-dried cooked shrimp mixture (s-Mix) skin prick test results at concentrations 1:100, 1:10, and 1:1 in all the participants.

CATEGORIZATION: 0 - no papule, 1- papule size less than half the histamine control papule size, 2 -papule size equals or more than half the histamine size, and 3- papule size similar or greater than histamine size.

The subject code (ID) is the result of the acronym of the group to which it belongs plus the subject order number

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