

Supplementary Methods

The cross-reactivity assays of MTM and ATM

The dot blot was performed to analyze the cross-reactivity of MTM and ATM to bind with IgE by the method of Han *et al.*¹

Reference

1. T. J. Han, F. Huan, M. Liu, M. S. Li, Y. Yang, G. X. Chen, D. Lai, M. J. Cao and G. M. Liu, IgE epitopes analysis of sarcoplasmic-calcium-binding protein, a heat-resistant allergen in *Crassostrea angulate*, *Food Funct.*, 2021, **12**(18), 8570-8582.

Figure legends.

Figure S1. Prediction of the linear mimotopes of ATM using bioinformatics tools.

(A) Prediction of linear mimotopes in ATM using the DNA Star Protean system.

(B) Prediction of linear mimotopes in ATM using BepiPred.

Figure S2. IgG-binding capacity analysis of denaturant-treated ATM.

(A) Dot blot analysis of denaturant-treated ATM using using ATM polyclonal antibody. BSA was used as the negative control; ATM was used as the positive control.

(B) IgG-immunoblot assays of denaturant-treated ATM using the software Image J. The x-coordinate represented the intensity of IgG-binding capacity of ATM being treated with denaturants at different concentrations.

Figure S3. IgE-binding capacity analysis of the cross-reactive sera between MTM and ATM.

Figure S1

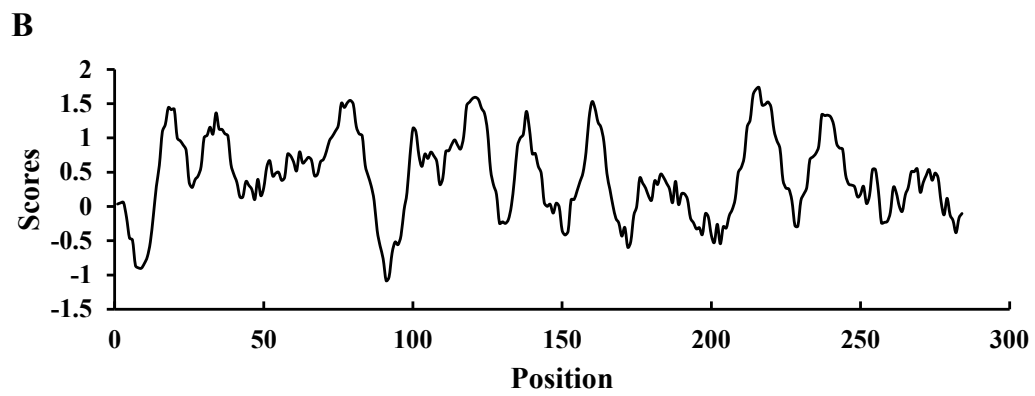
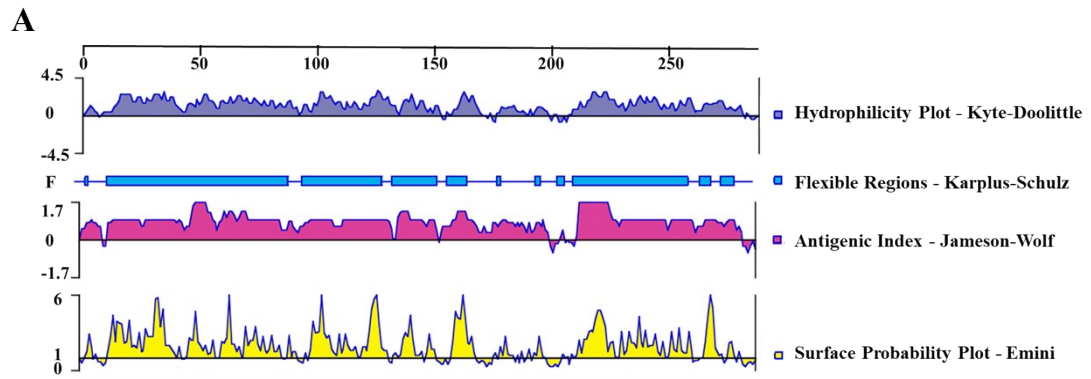
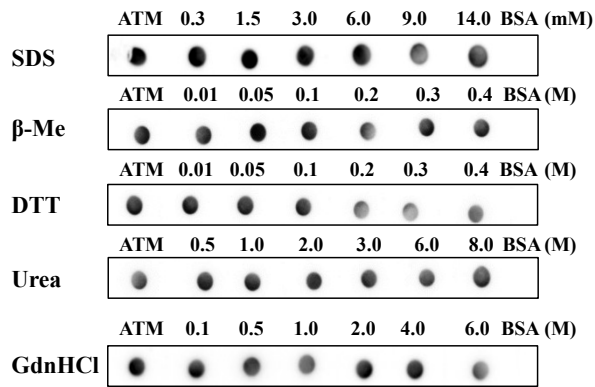


Figure S2

A



B

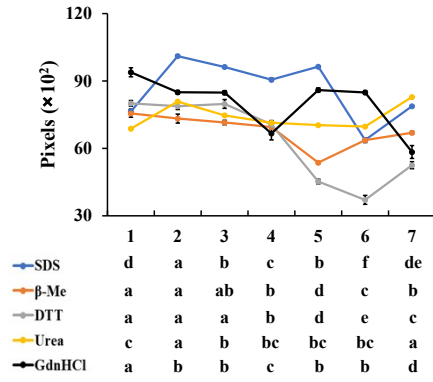


Figure S3

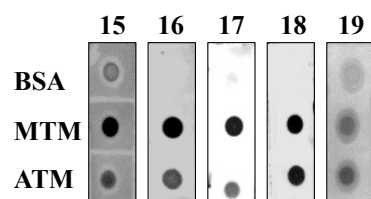


Table S1. List of TMs that have been reported as allergens

Classification	Latin name of speices	System name of TMs	Genbank accession number
Gastropoda	<i>Helix aspersa</i>	Hel as 1	O97192.1
	<i>Haliotis laevigata x Haliotis rubra</i>	Hal l 1	APG42675.1
Lamellibranchia	<i>Crassostrea gigas</i>	Cra g 1	AB444943
	<i>Saccostrea glomerata</i>	Sac g 1	AVD53650.1
Crustacea	<i>Charybdis feriatus</i>	Cha f 1	Q9N2R3.1
	<i>Crangon crangon</i>	Cra c 1	ACR43473.1
	<i>Homarus americanus</i>	Hom a 1	O44119.1
	<i>Litopenaeus vannamei</i>	Lit v 1	ACB38288.1
	<i>Macrobrachium rosenbergii</i>	Mac r 1	ADC55380.1
	<i>Melicertus latisulcatus</i>	Mel l 1	AGF86397.1
	<i>Metapenaeus ensis</i>	Met e 1	Q25456.1
	<i>Pandalus borealis</i>	Pan b 1	P86704.1
	<i>Panulirus stimpsoni</i>	Pan s 1	O61379.1
	<i>Penaeus aztecus</i>	Pen a 1	Q3Y8M6.1
	<i>Penaeus monodon</i>	Pen m 1	A1KYZ2.1
	<i>Portunus pelagicus</i>	Por p 1	AGE44125.1
	<i>Procambarus clarkii</i>	Pro c 1	ACN87223.1
	<i>Scylla paramamosain</i>	Scy p 1	QHW05413.1
Actinopterygii	<i>Oreochromis mossambicus</i>	Ore m 4	AFV53352.1
	<i>Salmo salar</i>	Sal s 4	NP_001117128.1
Insecta	<i>Aedes aegypti</i>	Aed a 10	JAN94926.1
	<i>Blattella germanica</i>	Bla g 7	AAF72534.1
	<i>Bombyx mori</i>	Bomb m 3	CDW21728.1
	<i>Chironomus kiiensis</i>	Chi k 10	O96764.2
	<i>Coptotermes formosanus</i>	Copt f 7	AGM32377.1
	<i>Lepisma saccharina</i>	Lep s 1	Q8T380.1
	<i>Periplaneta americana</i>	Per a 7	ACS14052.1
	<i>Chortoglyphus arcuatus</i>	Cho a 10	AEX31649.1
	<i>Dermatophagoides farinae</i>	Der f 10	XP_046913236.1
	<i>Dermatophagoides pteronyssinus</i>	Der p 10	O18416.1
Arachnoidea	<i>Tyrophagus putrescentiae</i>	Tyr p 10	D2DGW3.1
	<i>Lepidoglyphus destructor</i>	Lep d 10	Q9NFZ4.1
	<i>Blomia tropicalis</i>	Blo t 10	ABU97466.1