

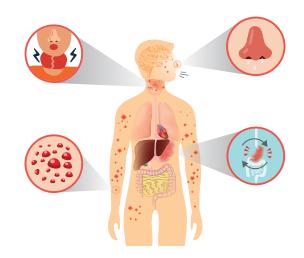


# Which Patients Need the Vibrant Seafood Zoomer?

#### **Symptoms Associated with Seafood Sensitivity Include:**

- Nausea
- Stomach pain
- Gas, cramps, or bloating
- Vomiting
- Heartburn
- Diarrhea
- Headaches

- Irritability or nervousness
- Asthma
- Stuffy or runny nose
- Sneezing
- Hives
- Skin rash





#### **Facts About Seafood Sensitivity**

- Seafood is among the eight most allergenic foods in the United States
- The major proteins involved in shellfish sensitivity are tropomyosin, arginine kinase, and sarcoplasmic reticulum Ca-binding protein.<sup>1</sup>
- The major protein involved in fish sensitivity is parvalbumin.<sup>2</sup>
- Seafood sensitivity can be difficult to assess through traditional testing due to the high rate of cross-reactivity and low specificity of skin testing.
- Some individuals are sensitive to the parasite Anasakis simplex, commonly found in seafood, but not to the actual fish or shellfish it infects.<sup>3</sup>











## **Clinical Connections**



Differentiation of species-specific parvalbumin epitopes instead of the whole proteins, identifying which fish species is most reactive.



A combined detection of both IgA and IgG, which reduces the possibility of missing reactivity.



Scale of reactivity may help make decisions between rotation or elimination diets.



Detection of sensitivity to antigens of fish and shellfish, as well as Anisakis, which is an infectious parasite usually found in fish.



The peptide-based microarray technique eliminates the requirement of testing different forms of seafood (raw vs.



## What Does the Seafood Zoomer Include?

SHELLFISH				
Crustacean	Crab	Blue crab, Mud crab, Brown crab, King crab		
	Shrimp & Prawn	Brown shrimp, Chinese white shrimp, Greasy back shrimp, Northern red shrimp, Penaeid shrimp, Sand shrimp, White leg shrimp, Banana prawn, Giant fresh water prawn, Giant tiger prawn, Kuruma prawn		
	Lobster	American lobster, Chinese spiny lobster, European lobster, Flathead lobster, South African spiny lobster, Louisiana crawfish		
Mollusk	Clam	Hard-Shell Clam, Soft-Shell Clam, Manila Clam, Razor Clam, Geoduck, Ocean Quahog, Surf Clam, Donax Clam		
	Mussel	Zebra Mussel, Blue Mussel, Rabbitsfoot Mussel, Snuffbox Mussel, Horse Mussel		
	Oyster	Pacific Oyster, Kumamoto Oyster, Atlantic Oyster, European Flat, Olympia Oyster		
	Snail	Roman snail, Garden snail, European snail		
	Scallop	Sea Scallop, Weathervane Scallop, Japanese Scallop, Bay Scallop, Pink Scallop , Calico Scallop, Queen Scallop, Icelandic Scallop		

FISH				
White fish	Cod and Pollock	Atlantic cod , Pacific cod, Patagonian toothfish, Haddock, Alaska pollock		
	Flatfish (Plaice, Sole, Flounder)	European plaice, Dover sole, Olive flounder		
	Monkfish			
Oily fish	Mackerel and Tuna	Atlantic mackerel , Chub mackerel, Indian mackerel, Japanese jack mackerel, Skipjack tuna, Yellowfin tuna, Albacore Tuna		
	Salmon and Trout	Atlantic salmon , Sockeye salmon, Coho salmon, Chinook salmon, Chum salmon, Masu salmon, Pink salmon Rainbow trout		
	Sardine, Herring, Pilchard	Brisling sardine, Atlantic herring, Alewife, Indian oil sardine, European pilchard, Pacific herring		
	Anchovies	European anchovy, Argentine anchoita, Peruvian anchoveta		

OTHER FISH				
Other fish	Bass	Asian sea bass, Largemouth bass, Striped bass		
	Carp	Bighead carp, Common carp, Prussian carp, Silver carp		
	Catfish	Blue catfish, Channel catfish		
	Other fish	Bream, Hake, Pufferfish, Croaker, Tilapia, Swordfish		

#### Reference:

- Samanta S. Khora. Seafood-Associated Shellfish Allergy: A Comprehensive Review, *Immunological Investigations*, 2016;45(6):504-530.

  Kuehn A, Swoboda I, Arumugam K, Hilger C, Hentges F. Fish Allergens at a Glance: Variable Allergenicity of Parvalbumins, the Major Fish Allergens. *Frontiers in Immunology*. 2014;5:179. Audicana MT, Kennedy MW. Anisakis simplex: from obscure infectious worm to inducer of immune hypersensitivity. *Clin Microbiol Rev*. 2008;21:360-379