

Cow's milk allergy

ImmunoCAP™ Specific IgE tests

ThermoFisher
SCIENTIFIC

ImmunoCAP™
Whole Allergen

Milk (f2)

ImmunoCAP™
Allergen Components

Bos d 8 (f78)
Casein

Bos d 4 (f76) / Bos d 5 (f77)
α-lactalbumin / β-lactoglobulin

Bos d 6 (e204)
Bovine serum albumin (BSA)

Good to know¹⁻⁴

Up to 83% of children with milk allergy can tolerate baked milk.

Cow's milk allergen component testing can help understand the likelihood of outgrowing a milk allergy and possibility of not reacting to baked milk products.



Risk of reaction to raw and cooked milk¹

- Resistant to heat denaturation¹
- Marker of persistent milk allergy¹
- Heat and digestion stable¹
- Highly allergenic⁵

Risk of reaction to raw milk¹

- Proteins denature once extensively heated^{6*}
- Abundant proteins in whey¹
- Risk for clinical reaction to raw or lightly cooked cow's milk¹

Risk of reaction to raw milk and cross-reaction to beef⁷⁻⁸





















- Minor allergen in milk and a major allergen in beef⁷⁻⁸
- Cross-reacts with other serum albumins such as those from pork and sheep⁷⁻⁸

* Recommended method of heating is to bake in the oven at 180°C for 30 min.^{3,6}

Whole allergens consist of numerous allergen components. A positive whole allergen result with a negative allergen component result may mean a patient is sensitised to a component that is not yet available for testing. Consider a patient's clinical history and if an oral food challenge (OFC) with a specialist may be warranted.

References: 1. Dramburg S, et al. *Pediatr Allergy Immunol* 2023;34(Suppl 28):e13854. 2. De Boer R, et al. *J Allergy Clin Immunol Pract*. 2020 Apr;8(4):1459-1461.e5. 3. Leonard SA, et al. *J Allergy Clin Immunol Pract*. 2015;3(1):24. 4. Sicherer S.H et al. *Clin Exp Allergy*. 1999;29(4):507-512. 5. Shek LP, et al. *Allergy*. 2005;60(7):912-919. 6. Bu G, et al. *Dairy Sci. & Technol*. 2013; 93:211-223 7. Melioli G et al. *Asthma Res Pract*. 2016 Jun 2;2:9. 8. Kukkonen A K, et al. *Allergy* 2015;70:1239-1245. 9. Nowak-Węgrzyn AK, et al. *J Allergy Clin Immunol* 2008;122(2):342-347. 10. Caubet JC, et al. *J Allergy Clin Immunol* 2012;131:222-224. 11. Ito K, et al. *Clin Mol Allergy* 2012 Jan 2;10(1):1. 12. Bartuzi Z, et al. *Curr Allergy Asthma Rep*. 2017;17(7):46. 13. Kleine-Tebbe J and Jakob T. *Molecular Allergy Diagnostics. Innovation for a Better Patient Management*. Springer 2017;12(3):291-304 14. Santos AF, et al. *Allergy*. 2023 Dec;78(12):3057-3076

Official product names: ImmunoCAP Allergen f2, Milk; ImmunoCAP Allergen f76, Allergen component nBos d 4 Alpha-lactalbumin, Milk; ImmunoCAP Allergen f77, Allergen component nBos d 5 Beta-lactoglobulin, Milk; ImmunoCAP Allergen e204, Allergen component nBos d 6 BSA, Cow; ImmunoCAP Allergen f78, Allergen component nBos d 8 Casein, Milk

Milk (f2)	α -lactalbumin Bos d 4	β -lactoglobulin Bos d 5	BSA Bos d 6	Casein Bos d 8	Interpretation*	Management consideration
					<ul style="list-style-type: none"> High probability of a persistent milk allergy, Patient is at high risk to have reactions to both raw and cooked milk^{1,10-13} 	<ul style="list-style-type: none"> Milk avoidance^{1,5,10,11,13} Consider, in context of other risk factors, prescription of an adrenaline autoinjector^{1,5,10,11,13} Reassessment of cow's milk allergic children at regular intervals is suggested to identify possible development of spontaneous tolerance¹⁴
					<ul style="list-style-type: none"> Indicates a risk to react to raw milk and a probability to have tolerance to cooked/baked milk, especially if Bos d 8 is negative or at low levels^{1,10-13} More likely to outgrow/develop tolerance to cow's milk^{1,10-13} 	<ul style="list-style-type: none"> Avoidance of raw milk^{1,5,10,11,13} Consider an OFC with cooked/baked milk^{1,5,10,11,13} Reassessment of cow's milk allergic children at regular intervals is suggested to identify possible development of spontaneous tolerance¹⁴
						
					<ul style="list-style-type: none"> Indicates a risk to react to raw milk and a probability to have tolerance to cooked/baked milk, especially if Bos d 8 is negative or at low levels^{1,7,8,10-13} Milk allergic patients sensitised to Bos d 6 (BSA) may have concomitant beef allergy^{1,7,8,10-13} 	<ul style="list-style-type: none"> Avoidance of raw milk^{1,5,10,11,13} Consider an OFC with cooked/baked milk Reassessment of cow's milk allergic children at regular intervals is suggested to identify possible development of spontaneous tolerance¹⁴ Consider risk of concomitant beef allergy and risk of cross-reaction with other serum albumins^{1,5-8,10,11,13}

* Results should always be interpreted in the context of the clinical history.

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