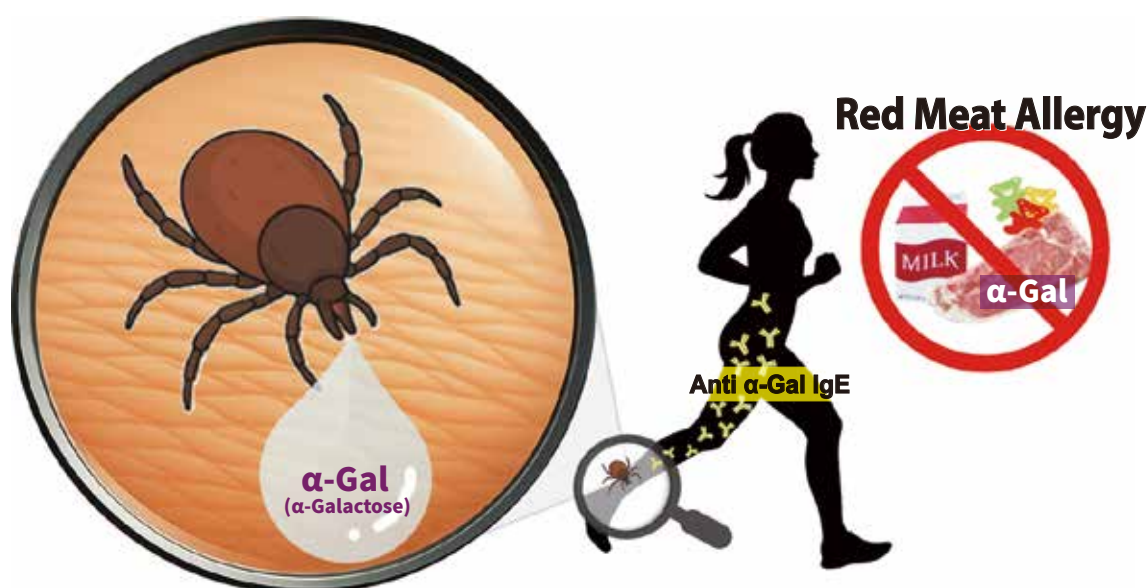


$\alpha(1-3)$ Gal Epitope as a Trigger of Red Meat Allergy

Glycans have long been considered unlikely to trigger allergic reactions. However, recent studies have revealed that glycans are deeply involved in immune functions. IgE antibodies that react to glycans found in plant and insect proteins have been known for some time, and the glycan structures that act as antigens are referred to as cross-reactive carbohydrate determinants (CCDs). More recently, IgE antibodies against the mammalian-derived glycan " α -Gal" have been discovered, and it has been confirmed that they can cause severe allergic reactions.¹⁾



Sudden Allergic Reactions Hours After Eating Meat — α -Gal Syndrome

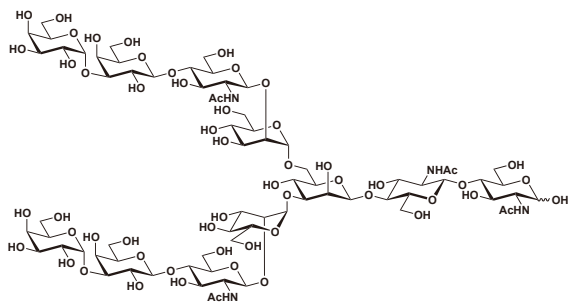
α -Gal Syndrome (AGS) is an IgE-mediated allergy to the glycan " α -Gal" found in mammalian-derived foods, first reported in 2008. It is known as a delayed-type allergy, triggered by tick bites, with symptoms such as hives and anaphylaxis appearing 3 to 8 hours after eating. In addition to meat and dairy products, AGS may also be triggered by vaccines, gelatin, and collagen.^{2,3)} Furthermore, a possible link with blood type has been suggested: individuals with blood type B are thought to exhibit immune tolerance to α -Gal, resulting in a lower risk of developing the syndrome.⁴⁾ Ongoing research into the mechanisms of AGS and the identification of sensitizing factors in tick saliva is expected to advance future diagnosis, treatment, and prevention.

References

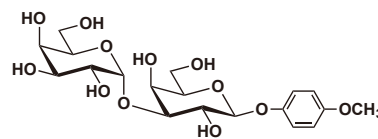
- 1) The α -Gal Syndrome and Potential Mechanisms
P. Román-Carrasco, W. Hemmer, A. Cabezas-Cruz, A. Hodžić, *Front. Allergy* **2021**, 2, 783279.
<https://doi.org/10.3389/falgy.2021.783279>
- 2) Connecting Diagnostics and Clinical Relevance of the α -Gal Syndrome
—Individual Sensitization Patterns of Patients with Suspected α -Gal-Associated Allergy
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- 3) Alpha-gal syndrome: Recognizing and managing a tick-bite-related meat allergy
Z. Naseem, A. Muhammad, A. Chatterjee, A. Rubio-Tapia, *Cleveland Clin. J. Med.* **2025**, 92, 311.
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- 4) Environmental and Molecular Drivers of the α -Gal Syndrome
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$\alpha(1-3)$ Gal Epitope as a Trigger of Red Meat Allergy

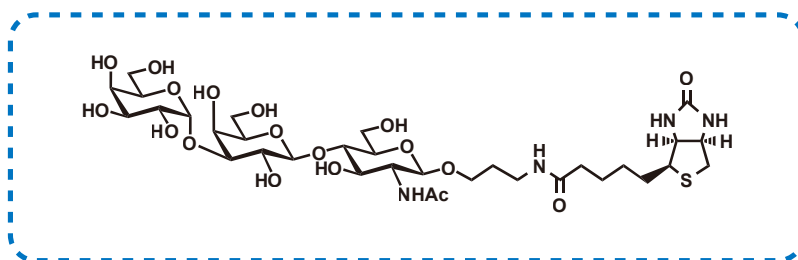
Examples of Available Glycans Containing the $\alpha(1-3)$ Gal Epitope



Gal $\alpha(1-3)$ N-Glycan [G0488]



Gal $\alpha(1-3)$ Gal- β -MP [G0461]



Please utilize these reagents as valuable research tools for the diagnosis, mechanism elucidation, and therapeutic development of α -Gal Syndrome (AGS).

α -Gal Related Products

Gal $\alpha(1-3)$ Gal- β -MP	50mg [G0461]
Gal $\alpha(1-3)$ N-Glycan	Please contact us [G0488]
Gal $\alpha(1-3)$ core 6-Fucosylated N-Glycan	Please contact us [G0574]
Gal $\alpha(1-3)$ N-Glycan 2AB (500pmol/vial)	1 vial [G0494]
Gal $\alpha(1-3)$ core 6-Fucosylated N-Glycan 2AB (500pmol/vial)	1 vial [G0575]
Anti- α Gal Polyclonal Antibody (Chicken)	1 vial [A3123]

Blood Type B-Associated Glycan Products

B Antigen PEG-trifluoroacetamide	Please contact us [B4172]
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