

CLINICAL SPECIFICATIONS

NON-GLUTEN PROTEINS-B

Function:

Wheat proteins/peptides are commonly categorized as gluten and non-gluten. Non-gluten proteins farinin and globulin are endosperm proteins. Non-gluten proteins are generally soluble in water or aqueous salt solutions. Farinin is a prolamin protein, while globulin is a non-prolamin protein, which serves as nutrient reserve for germinating embryo and protects the embryo from insets and pathogens.

Associated With:

Baker's asthma¹ Diabetes² Wheat allergy²

Known Cross-Reactions: Gliadin,⁴ oat;⁵ globulin with peanut, soybean reviewed in 2

Clinical Significance:

Immune reactivity and clinical manifestations of non-gluten proteins are most often associated with hypersensitivities/allergies.^{1,3} IgG and IgA antibodies to non-gluten proteins may be present due to cross-reactivity between non-gluten and gluten proteins.^{6,7} Homology between γ-gliadin and non-gluten proteins has been shown.⁶ Early animal studies show immunomodulatory effect of wheat germ globulin (WGG), which may lead to the use of WGG as a component of functional foods.⁸⁻¹⁰ Currently, wheat globulin is added to processed meat products (hot dogs and bologna) for water-holding capacity, decrease in cooking loss, ingredient adhesiveness and textural enhancement.¹¹

References:

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