Gliadin antibodies

Antigliadin antibodies

Peptide fragments of gliadin, a protein of wheat gluten, belong to the basic etiopathogenetic factors of celiac disease. The detection of **IgA and IgG antibodies against gliadin** (AGA) is therefore the most frequently and longest used serological marker of this disease.

ELISA methods for detecting AGA are commonly available, and AGAs are the cheapest of the celiac sprue markers listed. They were previously used as a first test in celiac screening programs. The sensitivity and reliability of detection have considerable variability and is significantly affected by the degree of purification of the antigen. AGA class IgA anti-gliadin antibodies are important especially for the assessment of the current state and adherence to a gluten-free diet, (sensitivity 73–89 %, specificity 72–89 %). IgG antibodies have a long-term profile, they are important in patients with IgA deficiency (sensitivity 78–82% and specificity 66–85%). Methods that use purified α-gliadin as antigen show higher specificity. An ELISA method with antigen - α-gliadin, purified by ion-exchange chromatography on SP-Sephadex was developed in the laboratory of ÚKBLD 1. LF UK and VFN in Prague (http://ukbld.lf1.cuni.cz). The reference values depend on the standard used, the use of an internal laboratory standard is preferred. The latest methods recommend the detection of antibodies against synthetically prepared gliadin-specific nonapeptides resp. deamidated gliadin peptides.

Links

Source

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References

- RASHTAK, S, et al. Comparative usefulness of deamidated gliadin antibodies in the diagnosis of celiac disease. *Clin Gastroenterol Hepatol.* 2008, vol 6, no. 4, pp. 426-32, ISSN 1542-3565 (Print), 1542-7714 (Electronic). PMID: 18304884 .
- ANKELO, M, et al. Antibody responses to deamidated gliadin peptide show high specificity and parallel antibodies to tissue transglutaminase in developing celiac disease. *Clin Exp Immunol.* 2007, vol 150, no. 2, pp. 285-93, ISSN 0009-9104 (Print), 1365-2249 (Electronic). PMID: 17803713 .
- VOLTA, U, et al. Usefulness of antibodies to deamidated gliadin peptides in celiac disease diagnosis and follow-up. *Dig Dis Sci.* 2008, vol 53, no. 6, pp. 1582-8, ISSN 0163-2116 (Print), 1573-2568 (Electronic). PMID: 17985240 .
- BAVIERA, LC, et al. Celiac disease screening by immunochromatographic visual assays: results of a multicenter study. *J Pediatrician Gastroenterol Nutr.* 2007, vol 45, no. 5, pp. 546-50, ISSN 0277-2116 (Print), 1536-4801 (Electronic). PMID: 18030231 .
- LAASS, M. Longitudinal follow-up examination of antigliadin antibody positive children and adults. *Eur J Gastroenterol Hepatol.* 2006, vol 18, no. 5, pp. 503-6, ISSN 0954-691X (Print), 1473-5687 (Electronic). PMID: 16607144 .
- SCHWERTZ, E, et al. Serologic assay based on gliadin-related nonapeptides as a highly sensitive and specific diagnostic aid in celiac disease. *Clin Chem.* 2004, vol 50, no. 12, pp. 2370-5, ISSN 0009-9147 (Print), 1530-8561 (Electronic). PMID: 15472035 .

- BAUDON, JJ, et al. Diagnosing celiac disease: a comparison of human tissue transglutaminase antibodies with antigliadin and antiendomysium antibodies. *Arch Pediatr Adolesc Med.* 2004, vol 158, no. 6, pp. 584-8, ISSN 1072-4710 (Print), 1538-3628 (Electronic). PMID: 15184223 .
- FERRE-LÓPEZ, S, et al. Immunochromatographic sticks for tissue transglutaminase and antigliadin antibody screening in celiac disease .. *Clin Gastroenterol Hepatol.* 2004, vol 2, no. 6, pp. 480-4, ISSN 1542-3565 (Print), 1542-7714 (Electronic). PMID: 15181616 .
- KOCNA, P, et al. Tissue transglutaminase-serology markers for celiac disease. *Clin Chem Lab Med.* 2002, vol 40, no. 5, pp. 485-92, ISSN 1434-6621. PMID: 12113293 .
- GRODZINSKY, E, et al. New automated immunoassay measuring immunoglobulin A antigliadin antibodies for prediction of celiac disease in childhood. *Clin Diagn Lab Immunol.* 2001, vol. 8, no. 3, pp. 564-70, ISSN 1071-412X (Print), 1098-6588 (Electronic). PMID: 11329459 .
- OSMAN, AA, et al. A monoclonal antibody that recognizes a potential celiac-toxic repetitive pentapeptide epitope in gliadins. *Eur J Gastroenterol Hepatol.* 2001, vol 13, no. 10, pp. 1189-93, ISSN 0954-691X (Print), 1473-5687 (Electronic). PMID: 11711775 .
- RUMBO, M, et al. Detection and characterization of antibodies specific to food antigens (gliadin, ovalbumin and beta-lactoglobulin) in human serum, saliva, colostrum and milk. *Clin Exp Immunol.* 1998, vol 112, no. 3, pp. 453-8, ISSN 0009-9104 (Print), 1365-2249 (Electronic). PMID: 9649214 .