

P88 DIY Dietary-Antigen-Test

GUIDE

Content

Why Food Allergy Testing?	2
What are we testing for?.....	3
1. IgE	3
2. IgG4.....	3
3. IgG total	4
4. Complement (C3d).....	5
VALIDATION/LINEARITY	6
1. Classification of reactivity (Low/Moderate/High):	6
2. Intra-assay and inter-assay precision (reproducibility):	6
3. Linearity	7
REPORT – Understanding P88.....	8
1. Patient Report: Summary (Report, page 1/2)	8
2. Patient Report: Less Restrictive diet (Report, page 3)	9
3. Patient Report: More Restrictive Diet (Report, Page 4)	9
4. Patient Report: P88 Immun-Index (Report, Page 5).....	10
5. Physician Report: IgE/IgG4 Food-Allergies (Report, Page 6-8)	11
6. Physician Report: IgG/C3d Food Sensitivities (Report, Page 9-11).....	11
7. Physician Report: Biogenic Compounds (Report, Page 12).....	11
CROSS REACTIVITY LIST	11
REFERENCE.....	13

Why Food Allergy Testing?

Food allergies and sensitivities and gut health are inseparable.

The intestinal mucosa forms the largest interface of our body to the outside world. In the literature you find it is 260-300 square meters, which is about the size of a tennis court. A study from 2014 only comes to about thirty-two square meters [1], so instead the size of half a badminton court. Either way, we are dealing with a large area. It is much larger than our body surface, the skin, with 1.6-1.9 square meters in an adult. This means that an intact intestinal barrier is crucial for the diverse functions that our intestines must fulfill. It is not only an excretory organ, but also performs numerous tasks that are vital for us, including absorption of nutrients, regulation of the water and electrolyte balance, immune defense and the production of enzymes, hormones, and messenger substances.

Food allergies and sensitivities lead to inflammation of this large interface. As a result, the intestinal barrier is severely disturbed, and its functions are severely impaired. Continuous inflammation caused by food allergies leads to leaky gut (increased permeability of the intestinal mucosa – as a result, larger molecules from the intestines enter the blood). Leaky Gut increases the possibility of further food allergies, creating a vicious circle! The immune system is out of balance, immune tolerance is impaired and a hyperreactive immune system occurs. This can lead to a variety of symptoms throughout the body.

Food allergy testing can help break this vicious cycle. When we can identify and eliminate the foods that provoke inflammatory reactions, the intestinal mucosa begins to heal, and the intestinal barrier will be restored.

Conditions associated with reactions to food

Constipation or Diarrhea	Gas or Bloating
Gastroesophageal Reflux	Poor absorption of vitamins & minerals
Hives, Rash, Eczema, Edema	Joint pain and Inflammation
Chronic Infections/decr. Immune Function	Fatigue / Poor sleep
Depression / Anxiety	Weight gain
Headache or Migraine	Auto-Immune Conditions

What are we testing for?

The P88 Food Allergy Test examines four different immune responses to eighty-eight different foods. Both food allergies and sensitivities are measured and evaluated.

1. IgE

Immunoglobulin E provokes immune reactions of the immediate type. Immediately and up to half an hour after contact with the allergen, symptoms such as swelling, hives, flushing or difficulty breathing occur. In severe cases, IgE reactions lead to anaphylactic shock.

2. IgG4

The proportion of IgG4 in relation to total IgG is usually only about 4% but can increase to 75%. Immunoglobulin G subtype four is fundamentally different from immunoglobulin G1, G2 and G3.

IgG4 can reduce histamine secretion in an immediate allergic reaction by inhibiting the binding of IgE to the receptor. It is precisely this mechanism that is used in hypo-sensibilization. In this case, IgE is not reduced, but through constant confrontation with small doses, the IgG4 titer increases. As soon as IgG4 is equal to or higher than IgE, immune tolerance is achieved.

Unlike IgG1-3, IgG4 has only a very weak affinity for complement and effector cells. IgG4 itself therefore has hardly any inflammatory effect. Certain signaling pathways, mediated by IL-10 or Treg cells, for example, can increase the production of IgG4 antibodies in B cells. The administration of appropriate probiotics and/or immunoglobulins increases the production of IL-10. This explains their positive effect on allergies and atopic diseases.

However, extremely high IgG4 titers are associated with the development of autoimmune diseases. IgG4-RDs (IgG4-related diseases) can affect various tissues, including the esophagus, lymph nodes and pancreas, as well as hormone-producing tissues such as the thyroid gland, ovaries, and prostate. Because of its special properties, it makes sense to measure IgG4 separately. (Additionally, to IgG and IgE! According to the above explanations the sole determination of IgG4, as it is very often offered for self-application, is not useful.)

When IgG4 and IgE are measured together, a picture of immune tolerance is obtained. In the case of pre-existing IgG4 RDs, the elimination of IgG4-positive foods can have a beneficial effect.

The P88 measures and evaluates IgG4 titers in relation to IgE immune responses. The foods that are found to be immune tolerant do not have to be unnecessarily eliminated from the diet. In the presence of IgG4 RDs, the dietary change can be adjusted accordingly at the discretion of the patient.

IgG4-Related Diseases (IgG4-RDs)

Autoimmune pancreatitis	Salivary gland disease	Orbital disease, often complicated by proptosis	Retroperitoneal fibrosis
Increased number of eosinophils Sclerosing	Peripheral Eosinophilia	Atopy	Lymphadenopathy
Sclerosing cholangitis	Mikulicz disease	Sclerosing sialadenitis	IgG4-related submandibular gland disease
Lacrimal gland enlargement	“Idiopathic” retroperitoneal fibrosis	IgG4-related thyroid disease	Prostatitis
IgG4-related kidney disease	Mimics sarcoidosis in the lung	Hypopituitarism associated with IgG4-related hypophysitis	Midline-destructive lesion
IgG4-related disease of the ovary	Constrictive pericarditis	Nasopharyngeal disease	Eosinophilic Esophagitis

3. IgG total

Unlike IgE, the symptoms of IgG reactions do not appear until 3 to 72 hours after contact with allergens, making it difficult to identify the foods in question. In addition, the symptoms differ greatly. Food sensitivities are more subtle and range from fatigue to headaches, nausea, seizures, hyperactivity, bloating, diarrhea, constipation, and mood swings. The severity of the symptoms varies from person to person. IgG antibodies have a significantly longer half-life than IgE antibodies. The non-specific symptoms are often not associated with food sensitivities for years or sometimes a lifetime.

Numerous studies show the improvement of symptoms such as irritable bowel syndrome, ADHD, and rheumatoid arthritis when IgG-positive foods are eliminated from the diet over a period of time (depending on the level of the IgG titer).

With the P88 DIY food antigen test, IgG-positive foods are reliably detected.

4. Complement (C3d)

Complement, a plasma protein, is part of the innate immune system. Normally it is activated by microorganisms (such as bacteria, viruses, yeasts, parasites). However, complement activation can also be caused by food allergens. Through complement, an IgG immune reaction can be increased 1000 to 10000 times. A moderate IgG immune reaction to a food *with* the presence of complement will therefore produce significantly stronger symptoms than a strong IgG immune reaction *without* the presence of complement. Only if you know both values, you can eliminate those foods which trigger the strongest inflammatory response.

Complement is degraded into different fragments. One of them is C3d, which is stable and easily measurable.

P88 is the only test that also measures Complement C3d. Tests that only measure IgG may miss the reactions to foods that are most clinically relevant.

Conditions associated with Complement (C3d)

Lupus	Crohn's disease	Ankylosing spondylitis	Ulcerative colitis
Psoriasis	Cystic fibrosis	Epilepsy	Gout
Scleroderma	Thyroiditis	Reiter's syndrome	Dermatomyositis
Depression	Food reactions	Increased CRP	Acute rheumatic fever
Typhoid	Sarcoidosis	Traumatic spinal cord injury	Panarteritis nodosa
Dermatomyositis	Rheumatoid arthritis	Acute myocardial infarction	

VALIDATION/LINEARITY

The P88 antigen test performed by Precision Point Diagnostics is a CMS-approved and COLA-accredited method (Enzyme Linked Immunosorbent Assay (ELISA)) for the detection of antigen-specific IgE, IgG4, total IgG, and complement C3d (food). The validation process included the determination of normal patient values or reference intervals, intra- and inter-assay precision (reproducibility) and linearity of the tests.

Establishment of reference intervals: The P88 is a semi-qualitative test that not only indicates the empirical value or reactivity for each antigen, but also expresses the patient's reactivity in three classes.

1. Classification of reactivity (Low/Moderate/High):

The 3-class system is based on a quartile system. Within this system, the most reactive 5% of the population is classified as 'High' and the next 20% as 'Moderate'. The next 65% of the population is classified as "Low".

Some foods have a greater prevalence of reactivity in the general population. These are dairy products and casein, wheat and gluten, shellfish, nuts, and eggs. The increased prevalence of allergies and sensitivities to these foods is reflected in our test as an adjustment of the percentage classification. The high range is defined in these foods as the top 10% of the sample population, the moderate range as the next 40%, and a low result again represents the next 40%.

The value that is the highest value when determining the class reactivity for the remaining 10% defines the reference range.

Precision Point Diagnostics is required by law to re-evaluate the reference ranges annually.

REACTIVITY	RANGE	
	AVERAGE FREQUENCY	INCREASED FREQUENCY*
REFERENCE RANGE	<= 10%	<= 10%
LOW	>10% - 75%	>10% - 50%
MODERATE	>75% - 95%	>50% - 90%
HIGH	>95%	>90%

*Increased frequency of immune responses in the general population is seen in dairy, casein, wheat, gluten, shellfish, nuts, and eggs.

2. Intra-assay and inter-assay precision (reproducibility):

Intra-assay precision is defined as the reproducibility of the assay within the same test date. To assess intra-assay precision, ten patient samples were tested in duplicate. It was determined that the test contains 95% precision. The inter-assay precision is defined as the reproducibility of the assay over a period. In order to assess the inter-assay precision, the same serum sample was tested over 5 days. It was determined that the test contains a 94% inter-assay precision.

3. Linearity

The linearity of the enzyme-linked immuno-sorbent assay was established by plating varying amounts of serum. It was determined that the linearity of the test is greater than 99%. Additionally, the assay has been shown to be linear at concentrations 4-fold of normal patient samples. Therefore, patient values that are reported above the reference interval are accurate because the normal patient intervals are less than the assay range of the test.

REPORT – Understanding P88

The P88 DIY Food Antigen Test provides a comprehensive assessment of immunological responses to the tested foods by simultaneously detecting IgE, IgG4, total IgG and complement C3d. The vast amount of data can be quite overwhelming in the beginning. To make it easier for you and your patient this report displays the complex results in various tables and diagrams. The following pages explain how to *read* the report and where to look for certain information.

The report contains two parts - The Patient Report (Page 1-5) and the Physician Report (Page 6-12):

Patient Report:

Summary	Page 1/2
Less Restrictive Diet	Page 3
More Restrictive Diet	Page 4
Immune Index	Page 5

Physician Report:

IgE/IgG4-Allergies by Food Group	Page 6-8
IgG/C3d-Sensitivities by Food Group	Page 7-9
Biogenic Compounds	Page 10

Only the Physician Report shows the quantity amounts of IgE, IgG4, IgG and C3d your patient makes to a specific food. This way the Pages 1-5 (Patient Report) can easily be used as a handout for the patient.

1. Patient Report: Summary (Report, page 1/2)

All foods are listed here in alphabetical order with their reactivity-levels for IgE, IgG4, IgG and complement. Levels with the result MODERATE will be displayed orange and those with the result HIGH will be red. This table does not show quantity of results or the reference ranges. These numbers you will find on pages 6-11 (Allergies/Sensitivities by Food Group).

The columns IgE/IgG4 as well as IgG/complement C3d are presented next to each other. This makes it easy to distinguish between allergies and sensitivities. The additional column '*Immune tolerance to IgE*' next to IgE and IgG4 helps to identify those foods for which the body has developed a tolerance. You can recognize an immune tolerance to IgE by the green field *YES*.

Whenever Immune Tolerance is detected, or there is just an IgG4 reaction and no IgE reaction, the colored High and Moderate cells are displayed faded for a better quick overview what really is relevant. IgG4 only plays a role in case of IgG4-RDs.

2. Patient Report: Less Restrictive diet (Report, page 3)

Criteria for logic of Less Restrictive diet:

ELIMINATE:

High IgE reactivity and/or High IgG reactivity

ROTATE (> 72 hours until re-consumption):

Moderate IgG reactivity AND High, Moderate or Low level of complement C3d

ELIMINATE IgG4:

High IgG4 reactions are listed separately in the column 'Elimination by recommendation'. IgG4 is not generally inflammatory. It only plays a role in certain pre-existing conditions. (See above list for IgG4 RDs)

3. Patient Report: More Restrictive Diet (Report, Page 4)

Criteria for logic of Mess Restrictive diet:

ELIMINATE:

High and Moderate IgE and/or High and Moderate IgG reactivity

ROTATE: (> 72 hours until re-consumption):

low IgG reactivity AND High, Moderate or Low Complement C3d

ELIMINATE IgG4:

High and moderate IgG4 titers are listed separately in the column 'Elimination according to recommendation'. IgG4 is not generally inflammatory, but only plays a role in certain pre-existing conditions. (See IgG4 RDs)

In both diets the table contains four columns. Those are:

a) **NO LIMITATION (Green)**

If possible, the focus should be on this column. Surely the patient will find food here that he or she likes. As always, it is a matter of perspective: Is the glass half full or half empty...

b) **ROTATE (Orange)**

These foods should be rotated out of the diet for a period of at least 72h or reduced in overall intake to avoid further sensitization.

c) **ELIMINATE (Red)**

These foods should not be consumed to reduce the inflammation they cause. The duration of the elimination depends on the severity of the allergic reaction.

d) **ELIMINATE IgG4 (Red)**

This column is only relevant if IgG4 RDs are present as a preexisting condition (see table). In this case, elimination of these foods can have a positive effect.

These diets are *suggestions* and are by no means mandatory. In each diet you will find the eighty-eight foods listed in four columns based on the criteria for logic described above.

We recommend, if possible, to comply with the MORE RESTRICTIVE dietary change. This change in diet aims to quickly reduce inflammation in patients with more aggressive symptoms.

The LESS RESTRICTIVE dietary change can be used for patients who may already have dietary restrictions and for those who would have difficulty making all dietary changes at once (e.g., children).

The less restrictive diet is also a good option for patients who are transitioning to a more open diet as the intestines heal.

4. Patient Report: P88 Immun-Index (Report, Page 5)

The Immune-Index is the heart of the P88 DIY Food Antigen Test

Common Allergy or Sensitivity testing only looks at one way the body reacts to foods. However, there are multiple ways the immune system reacts to food, so unless you measure multiple reactions or antibodies, you will miss foods a patient reacts to.

The P88 DAT looks at four reactions, including IgE (Allergies) IgG (Sensitivities) as well as IgG4, and C3d, all specific to eighty-eight foods. Then, based on each antibody type and their level of reaction, a calculation is done to give the patient their overall reactivity to each food.

The P88 DAT shows the level of reaction based on each antibody, but then also gives a cumulative score. Included in the P88 DAT is a page that gives your overall reactivity to each food as a cumulative score which we named P88 Immune-Index.

It is an innovative approach and tool; in that it gives the practitioner a sliding scale to take out as many or as few reactive foods as desired from the diet based on their relative level of reaction. Also, rather than basing it on just one type of immune reaction, you are basing it on all types combined.

It is recommended to maintain the dietary change once established for 3-6 months to allow inflammation and symptoms to resolve before reactive foods are reintroduced. In the case of complement-associated diseases, it may be considered to eliminate the foods with complement reactions.

5. Physician Report: IgE/IgG4 Food-Allergies (Report, Page 6-8)

The results for IgE and IgG4 of food allergies are first displayed graphically. IgE reactions can be recognized by the orange and IgG4 reactions by the blue color. High IgE or high IgG4 levels, as well as immune tolerance to IgE can be quickly detected visually.

The table on pages 7 and 8 lists the IgE and IgG4 results of the tested foods, sorted by food group and alphabetically within each group. You will find the reference range and quantity of antibodies made by your patient for each food. The direct comparison of the absolute values of IgE and IgG4 of one food allows the assessment of any immune tolerance to IgE. This is visually highlighted by a green field *YES* like in the summary. The MODERATE and HIGH results are highlighted in orange and red, respectively.

Note: The biologically correct assignment is taken as a basis. For example, tomato, summer squash (zucchini, pattison, spaghetti squash, etc.) and cucumber are not found in vegetables, but in fruits.

6. Physician Report: IgG/C3d Food Sensitivities (Report, Page 9-11)

The food sensitivities are also displayed graphically. The blue color indicates in which food group an IgG reaction can be detected and how strong it is.

Like described above the table lists the absolute values and the reference ranges, only it is for IgG and C3d now. The color highlighting of MODERATE and HIGH corresponds to the previous scheme of orange and red.

7. Physician Report: Biogenic Compounds (Report, Page 12)

This table reflects the dynamics of symptom-triggering compounds as potential, non-immune response-driven explanations for disorders, irritations, and allergy-like reactions.

Reactive foods, which are known to certain biogenic components, are presented in this table. In this way, additional patterns regarding food reactions that are not mediated by IgE or IgG can be identified. Several reactions in a category indicate an intolerance that was previously not taken into account or can confirm observed symptoms and metabolic disorders. If necessary, this can be used to adjust the diet.

CROSS REACTIVITY LIST

If your patient is still showing symptoms after following elimination and rotation diet from the P88 for three month the Cross Reactivity List as well as the Food Family List can help finding the offending foods. On the following page you will find a Cross Reactivity List. Please ask for the complementary Food Family List.

Cross Reactivity List

Alder Pollen	almonds, apples, apricot, celery, cherries, hazelnuts, kiwi, nectarine, orange, peaches, pears, persimmon, plum, parsley, raspberry, strawberry, carrot, white potato, fennel
Birch Pollen	almonds, apples, apricots, avocados, bananas, carrots, celery, cherries, chicory, coriander, fennel, fig, hazelnuts, kiwifruit, lychee, nectarines, parsley, parsnips, peaches, pears, peppers, persimmon, plums, potatoes, prunes, soy, strawberries, wheat, zucchini. Potential: walnuts
Grass Pollen	almonds, apples, apricots, avocados, bananas, carrots, celery, cherries, chicory, coriander, fennel, fig, hazelnuts, kiwifruit, lychee, nectarines, parsley, parsnips, peaches, pears, peppers, persimmon, plums, potatoes, prunes, soy, strawberries, wheat, zucchini. Potential: walnuts
Mugwort Pollen	carrots, celery, coriander, fennel, parsley, peppers, sunflower, apple, kiwi, melon, lettuce, anise seeds, caraway, chamomile tea extract, cumin, almond, hazelnut, peanut, pistachio, poppy seed, honey, latex
Ragweed Pollen	banana, cantaloupe, cucumber, green pepper, paprika, sunflower seeds/oil, honeydew, watermelon, zucchini, echinacea, artichoke, dandelions, honey (if bees pollinate from wildflowers), hibiscus or chamomile tea, pumpkin, tomato, latex
Latex	apple, banana, cherry, kiwi, melon, papaya, peach, pear, pineapple, tomato, avocado, carrot, celery, white potato, almond, chestnut, hazelnut
Cow's milk	Meat: sheep, lamb, goat, buffalo
Beef	cow's milk, lamb, pork, cat dander, Lyme's Disease
Pork	cow's milk, beef, cat epithelia, dog dander
Chicken Egg	duck egg, goose egg, seagull egg, turkey egg, pet bird dander, avian feathers, and meat
Crustacean	Mollusks (abalone, clam, mussel, oyster, scallop, squid), dust mite, cockroach
Dog	Meat: cat, horse, pork
Dust Mite	Clam, lobster, snail, shrimp, cockroach, other insects
Mold	Baker's and Brewer's yeast, Candida albicans, raw mushroom, latex, fruit fly

REFERENCE

- Sources: [1] Scand J Gastroenterol. 2014 Jun; 49(6):681-9. Doi: 10.3109/00365521.2014.898326. Epub 2014 Apr 2.
- J Int Med Res. 2012;40(1):204-10. The value of eliminating foods according to food-specific immunoglobulin G antibodies in irritable bowel syndrome with diarrhoea. Guo H, Jiang T, Wang J, Chang Y, Guo H, Zhang W.
- Scand J Gastroenterol. 2005 Jul;40(7):800-7. Food-specific IgG4 antibody-guided exclusion diet improves symptoms and rectal compliance in irritable bowel syndrome. Zar S, Mincher L, Benson MJ, Kumar D.
- Turk J Gastroenterol. 2012 Feb;23(1):19-27. The effects of provocation by foods with raised IgG antibodies and additives on the course of Crohn's disease: a pilot study. Uzunismail H, Cengiz M, Uzun H, Ozbakir F, Goksel S, Demirdağ F, Can G, Balci H.
- Digestion. 2010;81(4):252-64. doi: 10.1159/000264649. Epub 2010 Jan 30. Clinical relevance of IgG antibodies against food antigens in Crohn's disease: a double-blind cross-over diet intervention study. Bentz S, Hausmann M, Piberger H, Kellermeier S, Paul S, Held L, Falk W, Obermeier F, Fried M, Scholmerich J, Rogler G. Division of Gastroenterology and Hepatology, University Hospital Zurich, Zurich, Switzerland.
- Immunobiology. 2012 Nov;217(11):1067-79. The immunoglobulin, IgG Fc receptor and complement triangle in autoimmune diseases. Karsten CM, Kohl J.
- Germany. Int J Rheumatol. 2012;2012:602809. Epub 2012 Aug 26. Pathologies Associated with Serum IgG4 Elevation. Ebo M, Grados A, Bernit E, Vely F, Boucraut J, Harle JR, Daniel L, Schleinitz N.
- Thirty-four years since the discovery of gastrointestinal melatonin. Bubenik GA.
- Med Hypotheses. 2009 Sep;73(3):438-40. doi: 10.1016/j.mehy.2009.03.037. Epub 2009 Apr 29. The gluten syndrome: a neurological disease. Ford RP.
- Pediatrics. 2004 Jun;113(6):1672-6. Range of neurologic disorders in patients with celiac disease. Zelnik N, Pacht A, Obeid R, Lerner A. adults.
- Med Hypotheses. 2008;70(1):73-80. Epub 2007 Jun 14. The minicolumnopathy of autism: A link between migraine and gastrointestinal symptoms. Casanova MF.
- J Altern Complement Med. 1999 Dec;5(6):575-86. The abdominal brain and enteric nervous system. McMillin DL, Richards DG, Mein EA, Nelson CD.
- Clin Obstet Gynecol. 2013 Apr 4. [Epub ahead of print] Headaches During Pregnancy. Digre KB.
- J Immunol. 2011 Sep 1;187(5):2646-55. Epub 2011 Aug 1. A strain of Lactobacillus casei inhibits the effector phase of immune inflammation. Schiffer C, Lalanne AI, Cassard L, Mancardi DA, Malbec O, Bruhns P, Dif F, Daeron M.
- Acta Med Indones. 2010 Oct;42(4):236-40. Recurrent aphthous stomatitis caused by food allergy. Wardhana, Datau EA.
- Scand J Gastroenterol. 2012 Sep;47(8-9):914-9. doi: 10.3109/00365521.2012.690045. Epub 2012 May 18. Functional bowel symptoms, fibromyalgia, and fatigue: a food-induced triad? Berstad A, Undseth R, Lind R, Valeur J.
- Ann Allergy. 1991 Feb;66(2):181-4. Intestinal permeability in patients with chronic urticaria-angioedema with and without arthralgia. Paganelli R, Fagiolo U, Cancian M, Scala E.
- Clin Infect Dis. 2013 Mar 26. IgG Anticardiolipin Antibodies and Progression to Q Fever Endocarditis. Million M, Walter G, Bardin N, Camoin L, Giorgi R, Bongrand P, Gouriet F, Casalta JP, Thuny F, Habib G, Raoult D. Unite de Recherche sur les Maladies Infectieuses et Tropicales Emergentes, Faculte de Medecine, CNRS UMR 7278, IRD 198, Aix-Marseille Universite, 27 Bd Jean Moulin, 13005 Marseille, France.
- Marijn van der Neut-Kolfschoten, et al Anti-Inflammatory Activity of Human IgG4 Antibodies by Dynamic Fab Arm Exchange. SCIENCE VOL 317 14 SEPTEMBER 2007 pgs1554-1555.
- Volpi, Nicola and Maccari, Francesca (2009) 'Serum IgG Responses to Food Antigens in the Italian Population Evaluated by Highly Sensitive and Specific ELISA Test', Journal of Immunoassay and Immunochemistry, 30: 51 — 69.
- Kemeny DM, et al Sub-class of IgG in allergic disease. I. IgG sub-class antibodies in immediate and non-immediate food allergy. Clin Allergy. 1986 Nov; 16(6):571-81.
- Stapel SO, Testing for IgG4 against foods is not recommended as a diagnostic tool: EAACI Task Force Report. Allergy. 2008 Jul;63(7):793-6. Epub 2008 May 16.
- Statement of the AAAAI Work Group Report: Current approach to the diagnosis and management of adverse reactions to foods [web page]. October 2003. , 2013
- Dixon H. Treatment of delayed food allergy based on specific immunoglobulin G RAST testing relief. Otolaryngol Head Neck Surg. 2000; 123:48-54
- Nagisa Sugaya N, Nomura S. Relationship between cognitive appraisals of symptoms and negative mood for subtypes of irritable bowel syndrome. BioPsychoSocial Medicine 2008; 2:9-14.
- Atkinson W et al. Food elimination based on IgG antibodies in irritable bowel syndrome: a randomized controlled trial. Gut 2004; 53:1459-1464.
- Drsko J, Bischoff B, Hall M, McCallum R. Treating irritable bowel syndrome with a food elimination diet followed by food challenge and probiotics. J Am Coll Nutr. 2006; 25: 514-522.
- Bentz S. et al. Clinical relevance of IgG antibodies against food antigens in Crohn's disease: a double-blind cross-over diet Saccharomycesmannan antibodies (ASCA) of Crohn's patients cross react with mannan from other yeast strains, and murine ASCA IgM can be experimentally induced with Candida albicans. Inflamm Bowel Dis. 2007; 13: 1339-1346.
- Hadjivsilou M, Grunewald RA, Davies-Jones GAB. Gluten sensitivity as a neurological illness. Neurol/Neurosurg Psychiatry. 2002; 72: 560-563.
- Vladimir T et al. Higher plasma concentration of food-specific antibodies in persons with autistic disorder in comparison to their siblings. Focus Autism other Dev Disabl. 2008; 23: 176-185.
- Severance EG et al. Subunit and whole molecule specificity of the anti-bovine casein immune response in recent onset psychosis and schizophrenia. Schizophr Res. 2010; 118: 240-247.
- Huber A et al. Diet restriction in migraine, based on IgG against foods: a clinical double-blind, randomized, cross-over trial. Int Arch Allergy Immunol. 1998; 115: 67-72.