



ELISA/ACT Biotechnologies

a PERQUE Integrative Health company

LRA by ELISA/ACT Test Results For:

DUhYbh GUa d`Y

Date of Birth: 1%/9/1950

Sample ID: %& ()

Received: 10/26/2019

Your test results include:

- **Strong Reactions**
- **Moderate Reactions**
- **Non-Reactive Items**
- **Detailed Descriptions of Reactive Items**
- **Laminated Wallet Card with Results**

LRA BY ELISA/ACT® TEST RESULTS AND WHAT THEY MEAN

LRA by ELISA/ACT® tests use a breakthrough technology that allows the laboratory, for the first time, to observe immune reactions of specialized white cells (lymphocytes) just as they occur in your body (ex vivo, to be technical).

Live lymphocytes from your blood sample are exposed to antigens in our lab. Reaction indicates loss of tolerance and development of self-attack known as delayed hypersensitivity.

- **Strong reaction means that > 50% of cultured lymphocytes react.**
- **Moderate reaction means that 5-50% of cultured lymphocytes react.**

Complete food group(s) will be displayed as reactive when two or more foods in that group are reactive. Dairy, because it is commonly cross-allergenic, is the only exception. The dairy group will appear in bold if even one item in the dairy group is reactive. **It is recommended to avoid all items in a food group if it is listed in bold.**

Reactive items are an adverse load on your body's immune defenses. This means a reduced ability to respond to new or chronic infections. Reactive items also decrease immune activities needed to repair your body. This can provoke inflammation and self-attack ("autoimmunity").

Avoid **strong** reactors for **six (6) months** and **moderate** reactors for **three (3) months** to reduce the burden on the immune system and restore your body's ability to repair. Avoiding reactive items can break the cycle of impaired defense and repair, allowing your body to start the recovery and repair process.

Immediate allergies (Type 1 IgE linked) are not detected by the LRA by ELISA/ACT® tests. Immediate allergies are usually detected by history, routine skin tests, or RAST tests. If you have known immediate allergies, you should continue avoiding those items. Consult with your health professional if you have any questions regarding your immediate allergies.

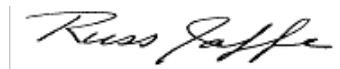
LRA by ELISA/ACT® Tests Are Different

The LRA tests **identify only reactive lymphocytes. B class lymphocytes react to harmful antibodies; T class lymphocytes react directly.**

Protective memory (non-reactive IgG) antibodies do not provoke symptoms and are not detected by ELISA/ACT® LRA tests. Detecting only the items that provoke reactions is an advantage of lymphocyte response assays.

Other antibody tests (ELISA IgG, EIA IgG, IgG tests) do not offer this advantage. These tests measure only if antibodies are present. Since antibodies can be helpful or harmful, knowing the amount of an antibody tells nothing of its function-- does it protect and help or does it react and harm?

Some labs measure particles and assume all particles of a certain size are reactive lymphocytes—again, these measurements are not as helpful as the LRA by ELISA/ACT® tests.



Lab Director

MD, Ph.D., FASCP, FACAAI, FACN

References: Golub, E.S. Immunology: A synthesis Sinauer Associates, Inc. , Sunderland, MA 1987 p474-479. Sell, S. Immunology, Immunopathology, and Immunity, 4th Ed., Elsevier, NY, 1987 p 314-321. Jaffe, R. Improved Immune Function Using Specific Nutrient Supplementation and ELISA/ACT® "Immunologic Fingerprint" to Detect Late Phase Responses Ex Vivo. J Am Col Nutr 8(5): 424, 1989.

LRA RESULTS

STRONG REACTIONS

- Orange
- Rapeseed/Canola Oil
- Hexachlorocyclohexane
- Lemon
- Sodium Benzoate (Benzoic Acid)
- Cassava (Yuca)
- Apricot
- D & C Green # 5

Avoid for at least 6 months.

- Sugar, Maple
- Toluene

MODERATE REACTIONS

- Egg white (Chicken)
- Gin (Juniper Berries)
- Camphor
- Gooseberry
- Cheese, Cottage
- Macadamia Nut
- D & C Red # 28
- Saffron
- Clove
- Okra
- Arsenic
- Primrose Oil

Avoid for at least 3 months.

- Rosemary
- Helminthosporium sativum
- Dibutyl Phthalate
- Aspirin

Thus of the 512 substance(s) tested, reaction is noted to 26 item(s) and 1 food group(s).

While both strong and moderate reactions are equally burdensome to your immune defense and repair systems, we have found that it takes about half as long to restore tolerance of moderate reactions as compared to the strong ones.

LRA RESULTS

GROUP TO AVOID, DUE TO MODERATE REACTIONS:

COW DAIRY

Milk, Pasteurized (Cow)
Yogurt (Cow)
Cheese, Brick (Cow)
Cheese, Processed (Cow)
Lactalbumin

Butter (Whole)
Casein
Cheese, Cottage
Cheese, Parmesan
Whey

Lactoglobulin
Milk, Raw (Cow)

Although we may not have detected a direct reaction to all of the items in the group(s) above, you should avoid all the items in these groups due to similarities with items to which you did have a reaction.

LRA RESULTS

NON-REACTIVE ITEMS

- 1,2 Dichlorobenzene
- 2-Methyl Pentane
- 2, 4, 5 T
- 2,4-D
- 3-Methyl Pentane
- Acai Berry
- Acesulfame
- Aduki/Adzuki Bean
- Agave Nectar
- Aldrin
- Alfalfa
- Algae, Chlorella
- Algae, Spirulina
- Allspice
- Almond
- Aloe
- Alternaria alternata
- Aluminum
- Amaranth
- Amitriptyline (Elavil)
- Amoxicillin
- Ampicillin
- Anchovy
- Anise Seed
- Annatto
- Antimony
- Apple
- Arnica
- Arrowroot
- Artemisia anua
- Artichoke
- Asparagus
- Aspartame/Nutrasweet
- Aspergillus fumigatus
- Aspergillus niger
- Aspergillus oryzae
- Astragalus
- Atorvastatin (Lipitor)
- Avocado
- Baking Powder
- Bamboo
- Banana
- Barium Sulfate
- Barley
- Basil
- Bass
- Bay Leaf
- Bean, Garbanzo
- Bean, Kidney
- Bean, Lima
- Bean, Mung
- Bean, Navy
- Bean, Pinto/Frijole
- Bean, Soya
- Bean, String/Wax
- Beef/Veal
- Beet
- Benzaldehyde
- Benzene
- Benzopyrene
- Benzyl Acetate
- Bergamot
- Beryllium Oxide
- BHA
- BHT
- Black Cohash
- Blackberry
- Bladderwrack
- Blueberry
- Bok Choi
- Botrytis cinerea
- Boysenberry
- Brazil Nut
- Brilliant Black
- Broccoli
- Buckwheat/Kasha
- Buffalo
- Butter, Clarified(Ghee)
- Cabbage/Brussel Sprouts
- Cadmium
- Caffeine
- Calcium Propionate
- Camu Camu
- Candida albicans
- Cantalope/Honeydew
- Caraway Seed
- Carbamates
- Carbon Disulfide
- Carbon Tetrachloride
- Cardamom
- Carmine/Cochineal
- Carob
- Carrot
- Cashew
- Cat Dander (Felis Cattus)
- Catfish
- Cauliflower
- CBD Oil
- Celery
- Cellulose/Hemicellulose
- Cephalixin (Keflex)
- Chamomile
- Chard
- Cheese, Romano (Sheep)
- Cheese/Milk (Goat)
- Cherry
- Chestnut
- Chia
- Chicken
- Chicory
- Chive
- Chlordane
- Chloroform
- Chocolate/Cocoa
- Chrysanthemum
- Cilantro
- Cinnamon
- Ciprofloxacin (Cipro)
- Cis-Dichloroethylene
- Cladosporium cladosporioides
- Cladosporium herbarum
- Clam
- Clarithromycin (Biaxin)
- Coconut
- Cod
- Cod Liver Oil

LRA RESULTS

NON-REACTIVE ITEMS, CONT'D

- Coffee
- Cola
- Collard Greens
- Coriander
- Corn (Maize)
- Cottonseed Oil
- Crab
- Cranberry
- Cream of Tartar
- Cucumber
- Cucumber, Japanese
- Cumin
- Curry
- Cyclobenzaprine (Flexeril)
- Cyclohexylamine
- D & C Green # 8
- D & C Orange # 4
- D & C Orange # 5
- D & C Red # 22
- D & C Red #33
- D & C Violet # 2
- Date
- DBCP (Dibromochloropropane)
- DDT
- Deer/Venison
- DEET
- Detergent (Synthetic)
- Diacetyl
- Dieldrin
- Dill
- Docosanol (Abreva)
- Dog Dander (Canis Familiaris)
- Dong Quai
- Dragon Fruit
- Duck Feathers (Anas platyrhynca)
- Duck/Goose
- Duloxetine (Cymbalta)
- Dulse
- Echinacea
- EDTA
- Egg yolk (Chicken)
- Eggplant
- Elderberry
- Endive
- Endrin
- Ephedra
- Epicoccum nigrum
- Epidermophyton floccosum
- Erythromycin
- Ethyl Acetate
- Ethyl Acetoacetate
- Ethyl Butyrate
- Ethyl Mercury
- Ethylene Dibromide
- FD & C Blue # 1
- FD & C Blue # 2
- FD & C Green # 3
- FD & C Red # 3
- FD & C Red # 40
- FD & C Red #2
- FD & C Yellow # 10
- FD & C Yellow # 5
- FD & C Yellow # 6
- Feverfew
- Fig
- Flax/Linseed Oil
- Fluconazole (Diflucan)
- Fluoxetine (Prozac)
- Formaldehyde
- Fusarium solani
- Fusarium vasinfectum
- Gabapentin (Neurontin)
- Garlic
- Gelatin
- Geotrichum candidum
- Ginger
- Ginseng, American
- Ginseng, Chinese
- Ginseng, Siberian
- Gliadin
- Gluten
- Glyphosate
- Goat Hair/skin scraping (Capra hircus)
- Goji Berry
- Gold
- Goldenseal/Hydrastis
- Goose Feathers (Anser anser)
- Grape/Raisin (Green)
- Grape/Raisin (Red)
- Grapefruit
- Grapeseed Oil
- Green Tea
- Guaifenesin (Mucinex)
- Guinea Pig Hair (Cavia porcellus)
- Gum, Acacia/Arabic
- Gum, Agar
- Gum, Carageenan
- Gum, Guar
- Gum, Karaya
- Gum, Locust Bean
- Gum, Tragacanth
- Gum, Xanthan
- Haddock
- Halogenated Biocide
- Hawthorne
- Hazelnut/Filbert
- Helminthosporium halodes
- Hemp
- Heptachlor
- Hijiki
- Honey
- Hops
- Horse Dander (Equus caballus)
- Horseradish
- Hydrogenated Oil
- Hydroxychloroquine (Plaquenil)
- Hypericum/St. John's Wort
- Ibuprofen
- Irish Moss
- Isopropyl Ether
- Kale
- Kamut
- Kelp/Seaweed
- Kiwi
- Kombu
- Lamb/Mutton

LRA RESULTS

NON-REACTIVE ITEMS, CONT'D

- Latex
- Lead
- Leek
- Lemongrass
- Lentils, Red/Green
- Lettuce, Iceberg
- Lettuce, Red Leaf
- Lettuce, Romaine
- Licorice
- Lime
- Lobster
- Lomatium
- Maca
- Mace
- Magnesium Stearate
- Maleic Anhydride
- Malt
- Mango
- Mannitol
- Marjoram
- Menthol
- Mercury
- Mesalamine (Asacol)
- Metallic Catalysts
- Metaxalone (Skelaxin)
- Metformin (Glucophage)
- Methoxychlor
- Methyl Mercury
- Methyl Paraben
- Methylene Chloride
- Millet
- Miso, Barley
- Miso, Brown
- Miso, Hatcho
- Miso, White
- Molasses
- Morpholine
- MSG (Monosodium Glutamate)
- Mucor mucedo
- Mucor racemosus
- Mushroom
- Mushroom, Maitake
- Mushroom, Reishi
- Mushroom, Shiitake
- Mustard Greens/Spice
- Naproxen (Aleve)
- Nectarine
- Nickel (II) Chloride
- Nitrates/Nitrites
- Nitrosamine Mix
- Noni
- Nutmeg
- Nystatin
- Oats
- Olive
- Omeprazole (Prilosec)
- Onion
- Oregano
- Organophosphates
- Oyster
- Palm Oil
- Papaya
- Paprika
- Parsley
- Parsnip
- Pea, Black-eyed
- Pea, Green/Snow
- Peach
- Peanut
- Pear
- Pecan
- Penicillamine
- Penicillin
- Penicillium notatum/chrysogenum
- Penicillium roquefortii
- Pentachlorophenol (PCP)
- Pepper, Black
- Pepper, Cayenne
- Pepper, Chili (Red)
- Pepper, Green/Red/Yellow
- Pepper, White
- Peppermint
- Perch/Mackerel
- Petroleum By-Products & Solvents
- Phenol
- Pimiento
- Pineapple
- Pinene
- Piroxocam (Feldane)
- Pistachio
- Plum, Umeboshi
- Plum/Prune
- Polyethylene Glycol
- Polysorbate 20
- Polysorbate 60
- Polysorbate 80
- Polyvinylpyrrolidone
- Pomegranate
- Poppy Seed
- Pork/Bacon/Ham
- Potassium Bromate
- Potassium Sorbate
- Potato (White)
- Potato, Sweet/Yam
- Propyl Gallate
- Propyl Paraben
- Propylene Glycol (1,2-Propanediol)
- Psyllium Seed
- Pullularia pullulans
- Pumpkin
- Pyrene
- Quail
- Quinoa
- Rabbit
- Rabbit Hair (Oryctolagus cuniculus)
- Radish
- Raspberry
- Resin
- Rhizopus nigricans/stolonifer
- Rhodotorula
- Rhubarb
- Rice, Basmati
- Rice, Brown
- Rice, White
- Rice, Wild
- Rose Hips

LRA RESULTS

NON-REACTIVE ITEMS, CONT'D

- Royal Jelly
- Rutabaga
- Rye
- Saccharine
- Safflower Oil
- Sage
- Salicylate
- Salmon/Lox
- Sardine
- Scallion/Spring Onion
- Scallop
- Scopulariopsis brevicaulis
- Sea Lettuce
- Selenium Sulfide
- Sertraline (Zoloft)
- Sesame/Tahini
- Sheep Wool (Ovis aries)
- Shrimp
- Silicates/Silicon Dioxide
- Silicone
- Silver
- Slippery Elm
- Snapper
- Soap (SDS/SLS)
- Sodium Alginate
- Sodium erythrobate
- Sodium Fluoride
- Sodium Propionate
- Sole/Flounder/Halibut
- Sorbitol
- Spearmint
- Spelt
- Spinach
- Splenda (Sucralose)
- Squash
- Star Fruit
- Stemphylium botryosum
- Stevia
- Strawberry
- Streptomycin
- Sugar Cane/Sucanat
- Sugar, Beet
- Sugar, Corn
- Sulfite/Metabisulfite
- Sunflower
- Swordfish
- Tamari
- Tamarind
- Tangerine/Mandarin Orange
- Tarragon
- Tea, Black
- Tert-Butyl-Ethyl Ether
- Tert-Butyl-Methyl Ether
- Tetrachloroethylene
- Tetracycline
- Thricothecium roseum
- Thyme
- Tilapia
- Tin/Stannous Chloride
- Titanium Dioxide
- Tobacco
- Tofu
- Tomato
- Trichoderma harzianum
- Trichloroethylene (TCE)
- Trichophyton mentagrophytes interdigitale
- Trichophyton rubrum
- Triticale
- Trout
- Tuna
- Turbot
- Turkey
- Turkey Feathers (Meleagris gallopavo)
- Turmeric
- Turnip/Greens
- Tylenol (Acetaminophen)
- Valerian
- Vanilla
- Vegetable Glycerin
- Vinyl Chloride
- Wakame
- Walnut Oil (Black)
- Walnut, English
- Water Chestnut
- Watercress
- Watermelon
- Wheat
- White Willow Bark
- Xylene
- Xylitol
- Yaki Nori/Laver
- Yeast, Bakers
- Yeast, Brewer's
- Yerba Mate

NUTRITIONAL RECOMMENDATIONS

Name	Instructions	Actions/Use	Special Comment
<u>Priority Supplements:</u>			
PERQUE Life Guard	One tabsule once a day with meal of choice	Provides essential vitamins and minerals in the most bio-absorbable and bio-available forms for optimal metabolic functioning	Energizing and alkalizing formula: enhances and protects the immune system.
PERQUE Potent C Guard	4 or more times a day. Depends on amount body will absorb (determined by the ascorbate calibration protocol)	Central regulator of cell metabolism, a stimulant to structural connective protein synthesis, & is vital to repair	Refer to Ascorbate (Vitamin C) Calibration protocol that will help determine the body's need for Vitamin C. This is also on Page 26 (Appendix 9) in The Alkaline Way Guide.
<u>Specific supplements that may be helpful:</u>			
PERQUE Adreno Distress Guard	2 softgels once, followed by 1 softgel later in the day.	Neutralizes stress, balances cortisol and rebuilds hormone function	
PERQUE Magnesium Plus Guard	2 capsules three times a day for a total of 6 per day + 1 tsp of choline citrate three times a day, total of 3 tsp	Triple magnesium blend taken with Choline Citrate boosts magnesium uptake	
PERQUE Repair Guard Forte	1 tabsules twice a day.	Unique flavonoid /flavanol combination that has very high antioxidant and anti-inflammatory action. Stimulates repair. Also improves utilization of ascorbate	
Max EPA and DHA	2 softgels once a day	High EPA and DHA: for optimum brain function, decreased plaque formation and reduction of autoimmunity risk	
PERQUE Endura/PAK Guard	3 capsules twice a day	Gives body energy, supports mental sharpness, helps regenerate the intestinal surface cells.PAK recycles L -glutamine and prevents glutamate build up.	Take on an empty stomach, i.e. 1/2 hour before a meal, 2 hours after a meal or at bedtime.
PERQUE Metabo-lipid-Plus (MDP) Guard	2 softgels twice a day	Provides effective fat metabolism; gives exercise benefits; controls appetite. Also important for heart muscle function	This is a potent formula, with convenient dosage and lasting results.
PERQUE Glucose Regulation Guard	2 softgels twice a day with meals (Blood glucose > 180 or Hgb A1c > 8.0)	Regulates blood sugar levels and energy balance , decreases insulin resistance, decreases hormonal dysregulation	Lowers body weight while increasing lean body mass.
PERQUE Mito Guard Plus	300 mg once a day	Improves cell electron transport and increases energy production in the cell.	Improves heart/muscle health and energy.

NUTRITIONAL RECOMMENDATIONS

Name	Instructions	Actions/Use	Special Comment
Liquid Nutrient Plan	Up to full amount to feel satisfied one day each week Refer to the Liquids-Only Nutrient Sufficiency Plan: page 94 in The Alkaline Way Guide for more information.	Provides easily assimilated nutrients with minimum work by digestive system, so repair can occur.	
Charcoal capsules or tablets	After breakfast, lunch, dinner. As needed for gas.	Absorbs excess formed gas.	
FLORADIX bitters	1 tablespoon three times a day (before each meal). Take FLORADIX bitters before each meal as an appetizer. It supports the functioning of the stomach, liver and gall bladder.	Stimulates stomach acid formation and thus improves digestion.	
Vitamin D3	1 drop three times a day	Improves immune function.Supports bone, muscle, prostate, and digestive system health.Improves cognitive function insulin resistance.May reduce health risks linked to metabolic syndrome, obesity, diabetes, fatigue, muscle weakness, high blood pressure, inflammation, and pain	Recommended to maintain blood Vitamin D3 levels between 50 and 80ng/ml or as directed by health practitioner.

BEHAVIORAL RECOMMENDATIONS

Learn new patterns of consumption. You may want to read *Diet for a Small Planet* by Frances Moore Luppe, *diet and Nutrition* by Rudolph Ballantine, MD., *Minding the Body, Mending the Mind* by Joan Borysenko PhD., and *Acid and Alkaline* by Herman Aihara.

Take balanced and fully active nutritional supplements as recommended in this report. Your health professional, or the sources cited in this report, can provide ordering information.

Demonstrate your commitment to your health as an essential part of your life by performing each and every part of this report as recommended by your physician with full attention.

Learn abdominal breathing and practice it for a few minutes once or more each day. Abdominal breathing means actively filling the abdomen as though it were a balloon being filled. Next allow the balloon to slowly passively deflate. Repeat for the full five minutes twice daily.

Discuss the meditation technique that is best for you with your doctor. Active Meditation: the Western Tradition by Robert R Leichtman, MD and Carl Japikse is an example of a non-sectarian, non-denominational approach to evoking your healing response, and is distinctly helpful.

Combine foods according to *Food Combining for Better Digestion* in order get the most efficient assimilation of nutrients from the foods you eat. This is Page 19 in the *Alkaline Way Guide*.

Use special, biologically active dichromatic green lights. These are known as PAR38 (150 watt green) and are made by GE and Sylvania. These are available from *Thinking of You* at 800-806-8671. Direct the light at the face from a distance of about 5 feet for about 20 minutes daily; before bed and on rising are particularly good times. Refer to *Light Therapy*: Page 111 in the *Alkaline Way Guide*.

Cardio exercise for 15 minutes twice a day, such as using a rebounder type trampoline. Refer to *Healthy Mind & Body Practices - Rebounder Trampoline*: Page 108 in *The Alkaline Way Guide*.

Take a daily salt and soda bath. The Epsom salt (Magnesium Sulfate) electrolyte improves the electrical conductivity of the skin and the alkaline baking soda helps rid the skin of acid residue deep in the pores. Put one half cup each of Epsom salts and baking soda in a tub of warm (not hot) water. Soak for 10-15 minutes and shower thereafter, gently rubbing the skin with a loofa. Refer to page 92 in *The Alkaline Way Guide* for more information on salt and soda baths.

Five or more small meals per day is highly recommended.

Receive traditional acupuncture [6-8 sessions to determine effectiveness] from a traditional acupuncturist near you. Ask your physician for a referral.

DESCRIPTION OF ITEMS

Orange

History/Discussion: Oranges are the largest citrus crop in the world. The two most common varieties of oranges are navel oranges and valencia oranges

Sources of Exposure: Fresh fruit, juices and vegetable salads. Take care to check for fruit sweeteners and natural fruit flavorings in beverages, baked goods, jams, jellies and candies

Substitutions: Non-reactive citrus fruits and juices.

Lemon

History/Discussion: Lemons are oval citrus fruits with smooth porous skin and are from a species of small evergreen trees native to Asia.

Sources of Exposure: Being a versatile fruit it is used in a variety of products like marinades, salad dressings, herbal preparations, desserts, juices.

Take care to check for fruit sweeteners and natural fruit flavorings in beverages, baked goods, jams, jellies and candies. In particular, lemon can be hidden under the term "natural flavorings". Lemon is also used in many processed foods such as mayonnaise.

Substitutions: Lime or other citrus fruits are substitutes for lemon.

Apricot

Sources of Exposure: Take care to check for fruit sweeteners and natural fruit flavorings in beverages, baked goods, jams, jellies and candies.

Substitutions: Any other non-reactive fruit.

Sugar, Maple

Item Tested: Maple sugar (maple syrup) is usually listed as such on any products that contain it.

Sources of Exposure: It is found in many breads and baked goods. Maple syrup is often used as a topping for pancakes, waffles and other breakfast foods. Maple water is also a source of exposure.

Substitutions: Other sugars, rice syrup, and barley malt (assuming you do not react to them) may be substituted for maple sugar.

DESCRIPTION OF ITEMS

Rapeseed/Canola Oil

Item Tested: A member of the *Cruciferaeae* (cabbage) family, rapeseed oil is closely related to the turnip (*rapum* is Latin for turnip). It is also known as canola oil.

Note: Avoidance of specific foods to which you react is sufficient. There is no added benefit in avoiding a complete food family unless specifically directed to.

History/Discussion: Rapeseed has long been grown commercially in India, China and Canada for its oil with the remaining seed fiber being used as fodder for animals. Its seeds yield 40-45% oil. Rapeseed/canola oil has historically been considered an undesirable oil for human consumption. It contains variable amounts of an anti-nutritional fatty acid (erucic acid) that inhibits fatty acid chain elongation and causes cell membrane and systemic toxicity; systemic toxicity is progressive and is sometimes manifested by severe weakness of the heart and skeletal muscles. However, due to the recent development of new hybrid varieties that contain minimal erucic acid, rapeseed oil is gaining acceptance as a dietary oil. Canola oil has gained a reputation as a high-quality, health-promoting “mono-rich” oil with the latest research demonstrating beneficial effects of monounsaturated fatty acids and detrimental effects of saturated fats on human health. Of all the commercial dietary oils, canola oil is the lowest in saturated fat and has a monounsaturated fat content higher than most other commercial oils. As can be seen in the table, canola oil has considerably more monounsaturated fat than safflower, peanut, and corn oil. The lower percentage of polyunsaturated fatty acids makes canola oil more resistant to oxidation/rancidity than most other popular oils. However, much of the canola oil sold is hydrogenated and contains a high percentage of trans fatty acids. In addition, fully hydrogenated canola oil is used in peanut butter as a stabilizer and in shortening for cake mixes as an emulsifier. Products containing hydrogenated canola oil are not desirable.

Fatty Acid Content of Canola Oil Compared to Other Common Commercial Oils*

Commercial Oil	Saturated Fat (%)	Monounsaturated Fat (%)	Polyunsaturated Fat (%)
Unhydrogenated Canola	6-7	65	28
Hydrogenated Canola	5-10	80-85 (40-50%Trans)	8
Olive	17	72	11
Peanut	20	48	32
Corn	14	28	59
Regular Safflower	8-9	13	78

*Values do not add up to 100 because values not available for some fatty acids in each group. From: Textbook of Food Chemistry and Nutritional Biochemistry - Zapsalis and Beck.

Sources of Exposure: Canola oil is found in many health food products from baked goods to chips.

Substitutions: Any cold pressed form of the other high quality oils are good alternatives.

DESCRIPTION OF ITEMS

Sodium Benzoate (Benzoic Acid)

Item Tested: Sodium benzoate is a white, odorless powder or crystal used as a preservative.

History/Discussion: Sodium benzoate is a widely used preservative. It has been used as a preservative and anti microbial agent in foods and beverages since the early 1900's. It is also used to preserve medications and cosmetics. It may cause headaches, hives, asthma and hyperactivity in sensitive adults and children.

Sources of Exposure: Sodium benzoate is found in many medications, packaged foods, margarines, fruit juices, pickles, jelly preserves, jams, confections, and soft drinks. It is used in ice for cooling fish. It is also used as an antiseptic and preservative in face and eye creams and toothpaste. It has no known toxicity for external use but is moderately toxic when ingested. Benzoate-free medications are often available from compounding pharmacies and apothecaries. Should your physician be unfamiliar with these compounds you may contact your local pharmacy, or ELISA/ACT Biotechnologies.

D & C Green # 5

Item Tested: D&C Green #5 may also be known as Alizarin Cyanine Green F; C.I. Acid Green 25; Diachromate Green G; Benzenesulfonic acid, 2,2'-((9,10-dihydro-9,10-dioxo-1,4-anthracenediyl)diimino)bis(5-methyl-, disodium salt

History/Discussion: D & C Green #5 is an artificial coloring agent approved for use in sutures, topically applied drugs and cosmetics.

Sources of Exposure: D&C Green No. 5 has been reported used in the following product types: lipstick; body wash/cleanser; hair color and bleaching; styling gel/lotion; antiperspirant/deodorant (men's); bar soap; fragrance for men; facial cleanse; after shave; and toothpaste.

Substitutions: Any of the non-toxic natural colors from food and/or plants.

DESCRIPTION OF ITEMS

Toluene

Item Tested: Toluene is similar to benzene and also belongs to the class of aromatic hydrocarbon solvents. It is a colorless liquid with a distinctive sweet and pungent smell. It occurs naturally in crude oil and in the tolu tree. You can smell toluene at 8 parts of toluene per million parts of air and taste it in water at 0.04 parts per million. EPA has set the maximum contaminant level goals (MCLG) for toluene at 1 mg/L or 1 ppm

History/Discussion: Toluene is produced during the process of making gasoline and other fuels from crude oil, in making coke from coal, and as a by-product in the manufacture of styrene. It is used both as a solvent and as a starter chemical in the production of other chemicals. It is used primarily in the refining of gasoline and in the making of paints, glues and adhesives, printing materials, as a thinner for ink, typewriter whiteout and general solvents. It is also used in the manufacture of other compounds such as benzoic acid and benzaldehyde used, perfumes and dyes. Nerve damage is the primary effect of toluene on the human body. It can cause a "high," as teenagers have discovered, when sniffing glue. Some 63% of 500 chemically sensitive individuals studied at the Environmental Health Center in Dallas were found to have toluene in their blood.

Sources of Exposure: We get exposed to toluene indoors from industrial and home products including paints, paint thinners, nail polish, perfumes, inks, glues, "white-out", many other solvent vapors including marker pens, and tobacco smoke. Toluene is commonly off-gassed from construction materials, and exposure to new homes and offices will result in higher toluene exposure. Breathing contaminated air or touching the chemical when working with gasoline, kerosene, heating oil, paints, and lacquers puts people at risk of exposure to toluene from inhalation and skin absorption. Sniffing glue or using solvents improperly can lead to high exposures. Toluene has also been found as a contaminant and/or byproduct of surgical/cosmetic implants. Certain exposure is reported from our water supply. Around industries which produce toluene and landfills containing toluene the levels are very much higher than average. While it is very difficult to measure our exposure from soil and water, it is found in high concentrations around many toxic waste sites. Toluene is also a common pollutant in both indoor and outdoor urban air. Gasoline and auto exhaust are the greatest sources of exposure. Gasoline is 15% toluene by weight. LRA by ELISA/ACT is the most advanced procedure that can identify individual immunotoxic, hypersensitivity reactions to toluene. Products labeled with "fragrance" can have hidden toluene derived chemicals

Recommendations: Consume pure water. Drink pure spring, filtered or purified water and bathe with filtered water. For bathing purposes you can obtain either a "whole house" water filtration system or a simple carbon filter that attaches to your shower head. Consume organic foods which are free of pesticides and solvents. The popularity and availability of organic foods is growing daily with increased public awareness about the importance of pure, nutrient-dense food. Many large grocery stores now carry organic foods. Also, check your local area for health food stores, food cooperatives and organic farm cooperatives. Avoid imported fruits, vegetables, grains, beans, etc. unless they are organically grown.. Avoid gasoline, its fumes, pumping gasoline, and all forms of exhaust. Use solvents and items containing solvents as little as possible, and only in well ventilated areas. Use toluene free markers and pens e.g AusPens. Visit <http://www.ewg.org/skindeep/> for suggestions on hair and skin care products that are labeled appropriately without ambiguous terms such as "fragrance".

DESCRIPTION OF ITEMS

Hexachlorocyclohexane

Item Tested: Hexachlorocyclohexane, or HCH, also known as benzene hexachloride (BHC), is an organochlorine pesticide. HCH is a manufactured chemical that does not occur naturally in the environment. It exists in eight chemical forms, called isomers. One of these forms, gamma-HCH is also known as lindane.

History/Discussion: Lindane is a product that has been used as an insecticide for insects infesting cotton and fruit and vegetable crops. It is also effective for controlling insects on livestock and pets, and has been used extensively in the control of lice, mosquitoes, and flies resistant to DDT. It is also used as a dip for sheep. Lindane has not been produced in the United States since 1977. It is still, however, imported to and formulated in the United States. Its use is restricted by the EPA and can be applied only by a certified applicator. The length of time lindane remains in the soil is undetermined. Technical-grade hexachlorocyclohexane is a mixture of several different forms of HCH. This was also used as an insecticide in the United States, but has not been produced here since 1983. The gamma isomer lindane is also called Qwell and was available by prescription for the treatment of lice and scabies on both children and adults. Only recently was Qwell removed from the market because of its extreme toxicity. Lindane Lotion, however, is still available by prescription. The compound is a nervous system stimulant producing hyper-excitability and convulsions. Whether or not it causes cancer has yet to be determined; the Department of Health and Human Services has determined, however, that it is reasonable to presume that HCH is carcinogenic. Liver cancer has been seen in laboratory rodents that were fed alpha-, beta-, gamma-, or technical-grade HCH over a long period of time.

Sources of Exposure: Exposure can come from the application of Qwell, a topical treatment for lice and scabies. Breathing air near factories where products using HCH are made, or eating food, particularly imported foods, contaminated with lindane are sources of exposure, as well as breathing hexachlorocyclohexane-contaminated living or workplace air. Various surveys have found lindane to be among the common organic chemical contaminants found in US homes. Drinking contaminated water is also a possible source of exposure.

Recommendations: Consume pure water. Drink filtered, pure spring or purified water and bathe with filtered water. For bathing purposes you can obtain either a "whole house" water filtration system or a simple carbon filter that attaches to your shower head. Consume organic foods which are free of lindane and other pesticides. The popularity and availability of organic foods is growing daily with increased public awareness about the importance of pure, nutrient-dense food. Many large groceries stores now carry organic foods. Also, check your local area for health food stores, food cooperatives and organic farm cooperatives. Filter your home and/or workplace air as necessary with a HEPA filter. Avoid the use of lindane lotion.

DESCRIPTION OF ITEMS

Cassava (Yuca)

Item Tested: Cassava root (*Manihot esculenta*) also called Yuca, is a tuberous root that is a member of the spurge family. It is mostly cultivated and harvested in the hot climates of Africa, Asia and the tropical Americas.

History/Discussion: Cassava (Yuca) should not be confused with Yucca (*Yucca schidigera*) as they are in no way related to one another with the exception of the name and common misspellings. Cassava is a major source of carbohydrates, especially dietary fiber and starch. As it is gluten-free, the starch is used in specialized diets for those suffering from Celiac disease or gluten intolerance and sensitivity. Cassava is also a rich source for minerals such as zinc, magnesium, copper, iron, potassium and manganese. It is also a moderate source of B-complex group of vitamins, folates, thiamin, riboflavin and Vitamin C.

Cassava has brown fibrous skin with a white interior. It is usually sold with a white wax coating that protects the vegetable from bruising. When Cassava is dried into starch form, the subsequent powder can be used to make tapioca. Saponins are a compound extract also derived from the Cassava root. It is extremely important to know that raw Cassava root should never be consumed. Cassava contains Prussic acid which can lead to cyanide poisoning, however, if it is boiled, cooked or soaked in water it becomes edible. Cassava is thought to have some health benefits by providing alternate options for gluten-free living, reducing blood pressure and cholesterol.

Sources of Exposure: Cassava is a common vegetable in a diverse array of traditional dishes in many Caribbean, African and Asian countries. It may be boiled, baked, steamed, grilled, fried or mashed. Generally, Cassava is fried in oil until brown and crispy and eaten as chips or crushed into flakes to add as a topping to any dish. It is used to make fries and is a popular ingredient in soups, stews and savory dishes. Cassava flour is used to make cakes, cookies, breads and sometimes is mixed with yams to make polenta. Cosmetically speaking, some soaps and shampoos contain saponins that are derived from the Cassava root. It is also important to know that the starch derived from Cassava is tapioca. If reactive to Cassava, it is recommended that tapioca also be avoided as they are related to one another. Be sure to read all ingredient lists carefully.

Substitutions: Potatoes, sweet potatoes, yams (true yams, not those listed as sweet potatoes) and arrowroot starch/flour can all be used as a substitute for Cassava root (and its starch) assuming that these items are non-reactive.

Egg white (Chicken)

History/Discussion: Eggs are a perfect protein (contains all twenty amino acids) and among the most commonly eaten foods in this country. They are also used widely in cooking and in a variety of processed foods. In cooking, eggs have two functions. The yolks are a binder, and the whites are a leavener. When egg whites are beaten without the yolk, they puff up and inflate with baking, and they can be used to hold up souffles. Therefore, when substituting for egg, binding and leavening substitutes are both needed.

Sources of Exposure: Aside from the obvious sources of egg, it is also "hidden" in many processed foods. The following lists foods that may contain egg whites:

Baked goods: *bread, cookies, pies, cakes, pancakes, waffles, french toast, meringues, donuts*

Miscellaneous: casseroles, soufflés, fritters, battered (fried) foods, ice cream, sherbet, prepared mixes, mayonnaise, tartar sauce, salad dressings, Hollandaise sauce, candy

Always read labels as exact ingredients may vary.

Substitutions: Cream of tartar; duck egg whites

DESCRIPTION OF ITEMS

Cheese, Cottage

Item Tested: The **DAIRY** category includes Butter, Whole; Butter, Clarified (Ghee); Cheese, Brick (Cow); Cheese, Cottage (Cow); Cheese, Parmesan (Cow); Cheese, Processed (Cow); Casein; Lactalbumin; Lactoglobulin; Milk, Pasteurized (Cow); Milk, Raw (Cow); and Yogurt (Cow). Casein, Lactalbumin and Lactoglobulin are various proteins found in dairy products. Ghee or clarified butter is a derivative of butter. It is made by melting butter and removing all the milk solids.

History/Discussion: If you are reactive to one or more products in the cow **DAIRY** family, it will be listed on your results in bold as **DAIRY**. This is done to draw your attention to the greater possibility of cross-reactivity to other dairy products, possibly resulting in the development of more reactivates in this group. Therefore, it is recommended that you avoid all cow dairy products. **The only exception to this avoidance of all dairy recommendations involves organic ghee.** Ghee or clarified butter is a derivative of butter. It is made by melting butter and removing all the milk solids. If you are shown sensitive to whole butter but not to clarified butter (ghee) you may try using organic ghee while avoiding whole butter.

Sources of Exposure: Cottage cheese is common in some salads and baked goods.

Substitutions: Sheep and goat cheeses.

Clove

History/Discussion: Cloves (*Eugenia caryophyllata*) are actually dried flower buds, which are picked before they open. The clove tree is a member of the myrtle family and is native to the Spice Islands of Indonesia (Moluccas).

Sources of Exposure: Cloves in spices, pharmaceuticals, fine perfumes, mouthwash, baked goods such as gingerbread, cookies, applesauce, muffins, cakes and other sweets. Cloves are also commonly found in barbecue and cocktail sauces and teas, such as chai. Clove is also used in some toiletries and found in some soaps, shampoo/conditioner and lotions.

Substitutions: Other spices

Rosemary

History/Discussion: Rosemary is an herb in the *Lamiaceae* (mint) family.

Note: Avoidance of specific foods to which you react is sufficient. There is no added benefit in avoiding a complete food family unless specifically directed to.

Sources of Exposure: Certain processed and ready to eat foods, such as breads, soups, marinades, dressings, dips, soft cheeses and herbal tea mixes (check labels). Rosemary is also found in hand soaps, lotions, shampoos, conditioners, lotions, lip balm, salves.

Substitutions: Other herbs such as peppermint or thyme (assuming you do not react to them).

DESCRIPTION OF ITEMS

Gin (Juniper Berries)

Item Tested: The juniper berry is the fruit of the juniper plant.

History/Discussion: Juniper berries are used in making gin. It is also known among herbalists as a laxative and as a stimulant to the kidneys, acting as a diuretic.

Sources of Exposure: The juniper berry is used in making gin. It can also be in some herbal diuretic and laxative formulas. It has also been used in some lotions, candles and air fresheners.

Substitutions: Other non-reactive beverages.

Macadamia Nut

History/Discussion: Macadamias are the seeds of the *Macadamia ternifolia* tree, a member of the *Proteaceae* family, a group of Australian evergreens.

Note: Avoidance of specific foods to which you react is sufficient. There is no added benefit in avoiding a complete food family unless specifically directed to.

Sources of Exposure: Desserts, cakes, cookies and other processed foods (check labels).

Substitutions: Almond, walnut, cashew and other non-reactive nuts of choice.

Okra

Item Tested: Okra is a warm-climate, seasonal, annual vegetable of the scientific name, *Hibiscus esculentus*.in the *Malvaceae* family

History/Discussion: Okra is held to be of Ethiopian origin. It is a member of the order *Malaves* and is related to cotton. Okra is also called gumbo and is grown for the immature pods which are eaten in soups and other dishes. It is also eaten as a freshly cooked vegetable by itself.

Sources of Exposure: Sources of exposure include soups, which might be called gumbos, and the freshly cooked vegetable itself. Okra is also found in many dishes of Indian and Ethiopian cuisine.

Substitutions: Any other non-reactive vegetable.

DESCRIPTION OF ITEMS

Helminthosporium sativum

Item Tested: *Helminthosporium* is a genus of rapidly growing, parasitic molds. Many are invaders of grasses and plants. *Helminthosporium sativum* is one species of this grouping.

History/Discussion: As a genus, *Helminthosporium* has been identified as a fungal parasite on cereal grain plants and grasses such as wheat, oats, rye and barley. The spores are dispersed by grain-threshing operations.

Helminthosporium spores are fairly common in the air. The daily peak of *Helminthosporium* production is about 2 P.M. Wheat yields in regions with short hot and humid springs are limited by the fungus *Helminthosporium sativum* causing the *Common root rot*. It affects durum, hard red spring wheat and barley.

Sources of Exposure: Grains as listed above

Recommendations: All foods should be properly stored, refrigerated as necessary, washed thoroughly before consuming and eaten while still fresh. The more healthy the plant, the more resistant its fruit will be to premature rot and spoilage. The use of biodynamically grown, organic foods is highly recommended. Freshly made fruit juices and homemade fruit smoothies help limit mold exposure from commercial fruit juices. Careful cleaning, drying and ventilation of bathrooms, kitchens, and other moist areas is also important. Control of household humidity is also essential. A relative humidity of 50-60% is desirable. Exposure to airborne indoor mold spores can be greatly reduced by careful air filtration along with adequate ventilation in general. Such filtration could include all house HEPA filters, HEPA filters put on the cooling or heating systems, and single room HEPA filters with ionizers to collect particulate matter. Take care to avoid cereal grains or plants contaminated by this mold. Carefully washing and pan roasting the grain before use helps limit mold exposure.

DESCRIPTION OF ITEMS

Camphor

Item Tested: Camphor is a waxy, white or transparent solid with a strong, aromatic odor.

History/Discussion: Camphor is a terpenoid with the chemical formula C₁₀H₁₆O. It is found in wood of the camphor laurel (*Cinnamomum camphora*), a large evergreen tree found in Asia (particularly in Borneo and Taiwan) and also of *Dryobalanops aromatica*, a giant of the Bornean forests. It also occurs in some other related trees in the laurel family, notably *Ocotea usambarensis*. It can also be synthetically produced from oil of turpentine. It is used for its scent, as an ingredient in cooking (mainly in India), as an embalming fluid, in religious ceremonies and for medicinal purposes. A major source of camphor in Asia is camphor basil.

Sources of Exposure: Modern uses include as a plasticizer for nitrocellulose, as a moth repellent, as an anti microbial substance, in embalming, and in fireworks. Solid camphor releases fumes that form a rust-preventative coating and is therefore stored in tool chests to protect tools against rust. Camphor crystals are also used to prevent damage to insect collections by other small insects.

It is also used in medicine. Camphor is readily absorbed through the skin and produces a feeling of cooling similar to that of menthol and acts as slight local anesthetic and anti microbial substance. There are anti-itch gels and cooling gels with camphor as the active ingredient. Camphor is an active ingredient (along with menthol) in vapor-steam products, such as Vicks VapoRub, and it is effective as a cough suppressant. It may also be administered orally in small quantities (50 mg) for minor heart symptoms and fatigue.

Some folk remedies also state that camphor will deter snakes and other reptiles due to its strong odor. Similarly, camphor is believed to be toxic to insects and is thus sometimes used as a repellent.

Camphor is widely used in Hindu religious ceremonies. Hindus worship a holy flame by burning camphor, which forms an important part of many religious ceremonies. Camphor is used in the Mahashivratri celebrations of Shiva, the Hindu god of destruction and (re)creation. As a natural pitch substance, it burns cool without leaving an ash residue, which symbolizes consciousness. Of late, most temples in southern India have stopped lighting camphor in the main Sanctum Sanctorium due to heavy deposits of carbon; however, open areas do use camphor. It also acts as rubefacient used as counter irritant for inflamed joints, sprains, rheumatic and other inflamed conditions like cold it may be used as mild nasopharyngeal decongestant. It is also found in clarifying masks used for skin.

Camphor is used in several cough preparations such as Vicks and Buckley's as a cough suppressant and topical analgesic.

DESCRIPTION OF ITEMS

D & C Red # 28

Item Tested: D & C Red #28 is also known by these names: Acide Red 92, and Disodium salt of 2, 4, 5, 7-tetrabromo 4, 5, 6, 7 tetrachlorofluorescein.

History/Discussion: D & C and Red # 28 is a fluoroescien-based dye named in the xanthene chemical class and is approved by the FDA for use only in drugs and cosmetics.

Sources of Exposure: Exposure to D & C Red # 28 can be found in makeup, lip/eye care products, soaps, hair dyes, nail polish, body wash, bath oils/salts, bath bombs, detergents, hair bleach and conditioners. Read all labels carefully.

Substitutions: Any of the non-toxic natural colors from food and/or plants.

Arsenic

Item Tested: Arsenic is a naturally occurring element in the earth's crust. Arsenic is usually found combined with one or more other elements such as oxygen, chlorine and sulfur. Arsenic combined with these elements is referred to as inorganic arsenic, where as arsenic combined with carbon and hydrogen is referred to as organic arsenic. Many arsenic-containing substances, both inorganic and organic, are naturally occurring, while others are man-made. The amount of arsenic released by human activities is at least three times that released by natural sources. It is important to maintain a distinction between inorganic and organic arsenic, since the organic forms are usually less toxic than the inorganic forms. Arsenic, despite its reputation, has a fairly low toxicity level in comparison with other metals.

History/Discussion: It is common knowledge that arsenic is poisonous. It causes toxicity by combining with sulfur-containing enzymes (important in free radical control and detoxification) and interfering with cellular metabolism. Its toxic effects are cumulative. Chronic exposure to arsenic from ingestion or inhalation can lead to degeneration of the nerves in hands and feet (peripheral neuropathy) with numbness; tingling and burning of the hands and feet; muscular weakness, loss of hair, decrease in production of red and white blood cells, blood vessel damage, abnormal heart function, dermatitis, headaches, fatigue, drowsiness, seizures, fatty infiltration and cirrhosis of the liver, kidney damage, irritation of the digestive tract with pain, nausea, vomiting and diarrhea, and death.

Sources of Exposure: Arsenic is widely distributed in the environment, and all humans are exposed to at least low levels of this element. According to the Agency for Toxic Substances and Disease Registry, in the general population, the main route of arsenic exposure is via ingestion of arsenic-containing food and water. It has been estimated that the average daily dietary intake of arsenic by adults in the U.S. is 50 mcg per day. A large percentage of this dietary intake comes from meat, fish and poultry, of which seafood has a consistently higher concentration. Grapes and wine made from grapes sprayed with arsenic-containing pesticides contain higher concentrations of arsenic. Smaller amounts come from breathing air.

Arsenic is used in insecticides, wood preservative, weed killer, paint, pigments, in preserving animal hides, wallpaper, ceramics, glass, in leaded gasoline, in cattle and sheep dips, and in the microelectronics industry (as in semi-conductor manufacturing and microwave devices). Currently the main uses of arsenic in this country are for pesticides/insecticides and wood preservatives. Pesticides containing arsenic are a frequent source of poisoning in rural areas of the United States and breathing sawdust or burning smoke from wood containing arsenic can be important sources of exposure. Tobacco smoke exposes one to arsenic as the tobacco leaf is often treated with arsenic-containing pesticides. Smelting factories for copper, lead, gold, cobalt and nickel produce arsenic as a by-product. As such they are major sources for arsenic deposition in our environment, contaminating our soil, our waterways and, ultimately, our food supply.

DESCRIPTION OF ITEMS

Dibutyl Phthalate

History/Discussion: Although phthalate esters were originally not believed to be acutely toxic, it was determined that the shock lung, which killed many American soldiers in the Vietnam War, was due to the phthalates in the blood storage bags. Occupational exposure to high levels may produce nose and throat irritations, and repeated exposure can cause nerve damage with symptoms such as pain, numbness and weakness. Two phthalate esters (butylbenzyl phthalate and di-n-butylphthalate) have been shown to be estrogenic, that is they are capable of acting like estrogens and attaching to estrogen receptors in the cell. Phthalates also accumulate in the soil and water and have been shown to be weak carcinogens in animals. Animal experiments show an association between liver cancer and phthalate exposure, but this has not been demonstrated as yet in humans. Exposure is primarily through breathing, eating and contact with eyes and skin. The ELISA/ACT LRA is the most advanced procedure that can identify individual immunotoxic, hypersensitivity reactions to phthalates.

Sources of Exposure: Dibutyl phthalate is used in many cosmetics and personal products including eye shadows, toilet waters, perfumes, other fragrance preparations, hair sprays and nail polish removers. Dibutyl phthalate is used in a variety of ways, including insect repellent for impregnation of clothing, plasticizer in nitrocellulose lacquers, cellophane, elastomers, explosives, nail polish, and solid rocket propellants. As a plasticizer it is found in many plastic products including plastic food wraps (Saran Wrap is a particularly rich source of phthalates), food storage dishes, plastic bags, and plastic pipes, all soft poly vinyl chlorides, styrene containers, tubing and the like. It is also a solvent for perfume oils, perfume fixative, textile lubricating agents, safety glass, printing dyes, resin solvent, paper coatings, and adhesives. Dibutyl phthalate is a major ingredient in glowsticks and other glow products which are popular with children.

Recommendations: Consume pure water. Drink pure spring, filtered or purified water and bathe with filtered water. Bottled water should be from glass or carbonate (hard) plastic; avoid flexible or soft plastic bottles. For bathing purposes you can obtain either a "whole house" water filtration system or a simple carbon filter that attaches to shower heads. Consume organic foods which are free of pesticides and solvents. The popularity and availability of organic foods is growing daily with increased public awareness about the importance of pure, nutrient-dense food. Many large grocery stores now carry organic foods. Also, check your local area for health food stores, food cooperatives and organic farm cooperatives. Take special care to store food in glass, or enamel containers that are free of plastics. Avoid contact of food with plastic wraps. Do not microwave food in plastic or cook food in plastic bags.

DESCRIPTION OF ITEMS

Gooseberry

Item Tested: The Gooseberry is a member of the Ribes genus and is closely related to the currant. It is native to Europe and Asia, but does grow wild all over temperate climates throughout Europe, North America and Siberia.

History/Discussion: The gooseberry is a small round fruit found on prickly deciduous shrubs. They grow best in environments where the summers are humid and the winters are cool. There are several varieties of gooseberries that range in color from green, red and purple. The fruit is sour and tart in taste when it has not ripened and is especially useful in baking. However, newer varieties are being cultivated to provide a sweeter, less tart flavor. Gooseberries are a good source of vitamin C and A, potassium, calcium, phosphorous and protein. They also have a high fiber content and help alleviate constipation and digestive difficulties.

Sources of Exposure: Gooseberries can be eaten alone as a fruit (raw or dried), but due to their tart flavor are most often used in baking and preserves. The fruit is used in many desserts and baked goods, such as tarts, pies, crumbles, muffins and ice creams. It is also quite commonly used in jellies, jams, and sauces (for fish, poultry and meat dishes). Gooseberries are also used as beverage flavor enhancers and can be found in a wide variety of sodas, flavored waters, fruit wines and herbal teas. Sources of exposure to gooseberries can also be found in herbal supplements and has been used in medicated herbal shampoo and conditioner. As the gooseberry is so closely related to currant, it is recommended that currant or products with currant should also be avoided as well. Be sure to read all ingredient labels carefully

Substitutions: Other non-reactive fruits and berries (such as raspberry and tomatillos). Rhubarb is a good substitute (unless this item was reactive) as it falls into the same flavor category as the gooseberry.

DESCRIPTION OF ITEMS

Saffron

Item Tested: Saffron (*Crocus sativa*) is derived from the stigma of the crocus flower, which is a member of the Iris family. It is cultivated throughout the world but found mainly in Spain, India, Greece, France, Italy and the Middle East.

History/Discussion: Saffron is the most expensive herb/spice in the world, due to the extensive labor invested in harvesting the herb. As saffron is comprised of the stigma of the flower, it can take up to 70,000 – 75,000 crocus flowers to produce 1 pound of dried saffron, hence the great expense of this spice. It is important to purchase saffron from a reputable source as many companies will adulterate the product by mixing in marigold or other herbs to reduce production prices. Its aroma is describes as similar to honey, with grass, hay and metallic undertones. The taste is similar to hay with bitter notes. While the stigma of the flower is a deep red, the colorant in foods and dyes shows as a warm yellow-orange hue.

Saffron is highly sought for many cultural food dishes as well as its medicinal properties. Studies have begun to suggest that this herb may help the treatment of depression, improve memory, support eyesight (slow down macular degeneration) and weight loss properties. Saffron contains anti-oxidant, immune and health promoting properties. It is a rich source of minerals such as copper, iron, potassium calcium, zinc and magnesium and is also high in vitamins A and C, folic acid, manganese, niacin and riboflavins. Saffron produces a compound, crocin, which helps to promote learning, memory retention and recall.

Sources of Exposure: Saffron is used in a wide variety of food dishes, being utilized as a seasoning and colorant. Saffron is used extensively in Persian, North African, Indian, European, Arab, Spanish, Turkish, Moroccan and Asian cuisine. Several well- known dishes using saffron are Spanish paella, French bouillabaisse, Indian pilafs and risotto Milanese. However, saffron is a common ingredient in cooking/simmering sauces, soups, baked foods, breads, curries, ice cream, desserts, meat dishes, kabobs, liquors, and beverages (European soda, saffron milk and herbal teas). Saffron has also been used medicinally and can be found in supplements, capsules or as an extract. It is used as a fragrance in perfumes and soaps and as a dye for cloth and hair. Cosmetically, saffron has been used in hydrating creams, face/body scrubs, facial masks, cleansers and toners. Be sure to read all ingredient labels carefully.

Substitutions: There is no substitute for saffron in terms of its unique flavor and aroma. However, to replicate the rich color of saffron, turmeric, annatto and paprika may serve the same purpose.

Primrose Oil

Item Tested: Primrose oil is the oil from the evening primrose plant. It is high in a fatty acid called gamma-linolenic acid (GLA).

History/Discussion: GLA has been shown to have some value in reducing blood clotting (by reducing platelet aggregation) and inflammation and has been beneficial in the treatment of cardiovascular disease and chronic inflammatory disorders such as rheumatoid arthritis and eczema.

Sources of Exposure: It is a health supplement and is not generally found in foods.

Substitutions: Other good sources of GLA are borage oil and black currant seed oil.

DESCRIPTION OF ITEMS

Aspirin

Item Tested: Acetylsalicylic acid is the chemical compound commonly known as aspirin.

History/Discussion: Pain relief by the bark of the willow tree has been known since antiquity. The active ingredient in the willow bark is salicin, and various techniques have been developed to extract this active ingredient from the bark and to prepare salicylic acid. This extraction was perfected during the first half of the nineteenth century. During the second half of the nineteenth century salicylates were used to preserve food and control pain and fever and to relieve gout. Aspirin produced from coal tar was introduced around 1899. Aspirin has been effective as an analgesic, antipyretic and anti-inflammatory drug. It also reduces the aggregation of platelets.

Aspirin can encourage the development of Reye's Syndrome (an acute encephalopathy which occurs in children as they recover from some viral diseases that leave them antioxidant depleted). Aspirin is also known to damage the cells lining the stomach which commonly leads to gastrointestinal bleeding. Aspirin can lead to an exaggerated production of leukotrienes which in turn results in bronchial constriction. Aspirin sensitivity and aspirin allergy is not uncommon. It tends to develop in middle age and involves skin, the respiratory tract or both. In skin it causes hives. In the respiratory tract, formation of nasal polyps often proceeds the development of aspirin sensitivities. Bronchial asthma may occur, but rarely.

Aspirin is probably the most widely used over-the-counter drug in the United States. Americans consume close to 20,000 tons of aspirin per year. However, aspirin, as well as the rest of the salicylates, can cause gastric irritation and upper gastrointestinal bleeding (enteric-coated aspirin reduces this problem). Persons using ordinary doses of 2 grams, or 6 aspirins daily, typically lose about one teaspoon of blood daily in their stool. Aspirin can also increase intestinal permeability to large protein molecules, thereby inducing and promoting a more permeable or "leaky" gut resulting in increased risk of developing further food hypersensitivities. Also, at normal daily doses, it can cause tinnitus (ringing in the ears), decreased hearing, vertigo and mild asymptomatic hepatitis. It functions as an analgesic, anti-inflammatory, fever-reducing, and anti-blood clotting agent.

Sources of Exposure: Aspirin can be found in dozens of cold, pain and other medications aside from aspirin itself. Common products containing aspirin include Ancasal, Artria SR, Aspro, Easprin, Ecotrin, Emprin, Excedrin and Measurin. Please note that while aspirin contains salicylates, salicylate sensitivity can be separate from aspirin (acetylsalicylate) sensitivity. One can be sensitive to aspirin but not salicylates and vice versa, thus the two substances are tested separately.

Substitutions: Alternative anti-inflammatory agents include buffered ascorbate (vitamin C), quercetin, white willow bark and sylimarin. Natural substances which effectively decrease 'sticky' platelets include fish oils, vitamin E, garlic, vitamin C and quercetin.

ELISA/ACT Biotechnologies®

ROTATION DIET PLAN

Patient, Sample
Received: 10/26/2019
Sample ID: 12345

At a glance:

Rotation of foods is often indicated to strengthen the immune system while avoiding allergies and hypersensitivities shown by the LRA by ELISA/ACT® tests

- The enclosed diet outline is based on a four day rotation plan.
- Each day provides a list of foods to choose from for that day.
- It is not necessary to eat all the items listed for that day; you may make your choice according to your preference.
- Amounts can be modified based on individual needs or requirements.
- For adequate digestive repair and restoration we provide for a "Juice or Liquids Only Day". This diet plan shows Sunday as the Juice Day. However, you may choose any day.

Please note that the EAB Rotation Diet is designed to help you get started on rotation and can be individualized. It complements the LRA by ELISA/ACT® and Alkaline Way health restoration program.

ROTATION DIET

Sunday (or Day 1)

Fish					
Fish Broth	8-oz				
Fowl					
Chicken Broth	16-oz	Turkey Broth	16-oz		
Fruit					
Apple Juice	8-oz	Cherry Juice	8-oz	Grape Juice	8-oz
Grapefruit Juice	8-oz	Melon Juice	8-oz	Peach Juice	8-oz
Pear Juice	8-oz	Pineapple Juice	8-oz	Prune Juice	8-oz
Grains/Grasses/Pseudograins					
Wheatgrass Juice	2-oz				
Meat					
Meat Broth	16-oz				
Miscellaneous					
Herb Tea	16-oz	Miso Broth	16-oz	Seaweed Broth	8-oz
Mollusks					
Clam Broth	8-oz				
Spices and Seasonings					
Garlic	as desired	Ginger Tea	16-oz		
Sugars					
Honey	2-T				
Vegetables					
Alfalfa Sprouts	as desired	Beet	as desired	Bell Pepper	as desired
Broccoli	as desired	Cabbage	as desired	Carrot Juice	as desired
Celery	as desired	Chive	as desired	Cucumber	as desired
Kale	as desired	Lettuce-iceberg	as desired	Mixed Juice	as desired
Onion	as desired	Parsley	as desired	Spinach	as desired
Tomato	as desired	Vegetable Broth	as desired	Watercress	as desired

- Note:
1. Plan one juice day per week - Sunday or Day 1
 2. If you are reactive to any yeast, no fruit for first month.
 3. For menu ideas and recipes, please refer to the Joy of Food Alkaline Way Handbook

ROTATION DIET

Monday

Crustaceans					
Lobster	4-oz				
Fish					
Anchovy	4-oz	Flounder	4-oz	Salmon/lox	4-oz
Snapper	4-oz	Sole	4-oz	Swordfish	4-oz
Fowl					
Chicken	4-oz	Egg-duck	2-oz	Game Fowl	4 oz
Fruit					
Apple	4-oz	Blackberry	8-oz	Lime	4-oz
Pear	4-oz	Persimmon	8-oz	Pineapple	8-oz
Pomegranate	6-oz	Tangerine	4-oz	Watermelon	8-oz
Grains/Grasses/Pseudograins					
Amaranth		Barley		Corn	
Rice (white)					
Meat					
Beef	3-oz				
Miscellaneous					
Miso (hatcho)	1-T	Sea Salt			
Mollusks					
Oyster	4-oz				
Nuts and Seeds					
Flax	2-oz	Hazelnut/filbert	2-oz	Pecan	2-oz
Pistachio	2-oz	Sesame/tahini	2-oz		
Oils					
Corn Oil	1-T	Flax Seed Oil	1-T	Olive Oil	1-T
Sesame Oil	1-T				
Spices and Seasonings					
Curry		Horseradish		Mustard	
Paprika		Thyme			
Sugars					
Sucanat	1-T				
Vegetables					
Artichoke	8-oz	Bell Pepper	8-oz	Cabbage	8-oz
Carrot	8-oz	Celery	8-oz	Corn	
Eggplant	8-oz	Green Peas	8-oz	Lettuce-romaine	8-oz
Lima Bean	6-oz	Olive	2-oz	Onion	6-oz
Sweet Potato	12-oz	Tomato	8-oz		

ROTATION DIET

Tuesday

Crustaceans					
Shrimp	4-oz				
Dairy					
Ghee	2-T	Sheep Cheese	2-oz		
Fish					
Bass	4-oz	Catfish	4-oz	Perch	4-oz
Pike	4-oz	Trout	4-oz		
Fowl					
Duck	4-oz	Goose	4-oz		
Fruit					
Banana	4-oz	Blueberry	8-oz	Cherry	8-oz
Coconut	8-oz	Cranberry	4-oz	Figs (dry)	2-oz
Grapes	8-oz	Nectarine	4-oz	Papaya	8-oz
Peach	4-oz	Raisins	2-oz		
Grains/Grasses/Pseudograins					
Millet		Quinoa		Triticale	
Wheat					
Meat					
Pork	3-oz	Rabbit	3-oz		
Miscellaneous					
Herb Tea	16-oz	Sea Salt		Seaweed/kelp	1-oz
Tofu	5-oz				
Mollusks					
Scallops	4-oz				
Nuts and Seeds					
Brazil	2-oz	Cashew	2-oz	Peanut	2-oz
Pine	2-oz	Sunflower Seed	2-oz		
Oils					
Peanut Oil	1-T	Safflower Oil	1-T	Sunflower Oil	1-T
Spices and Seasonings					
Dill		Garlic		Ginger	
Mace		Peppermint			
Sugars					
Molasses	1-T				
Vegetables					
Brussels Sprouts	8-oz	Cauliflower	6-oz	Chick Peas	4-oz
Cucumber	8-oz	Kale	8-oz	Kohlrabi	8-oz
Lentils (dry)	2-oz	Lettuce-red Leaf	8-oz	Mushroom	4-oz
Parsley	4-oz	String Bean	8-oz	Sunflower Sprouts	4-oz
Turnip	8-oz	Wheat Sprouts	6-oz		

ROTATION DIET

Wednesday

Crustaceans					
Crab	4-oz				
Dairy					
Goat Cheese	2-oz	Goat Milk	8-oz		
Fish					
Codfish	4-oz	Haddock	4-oz	Halibut	4-oz
Tuna	4-oz	Turbot/white	4-oz		
Fowl					
Turkey	4-oz				
Fruit					
Cantaloupe	1-oz	Cranberry	8-oz	Date	15-oz
Grapefruit	2-oz	Guava	8-oz	Honeydew	1-oz
Kiwi	4-oz	Mango	2-oz	Plum/prune	10-oz
Raspberry	8-oz	Strawberry	8-oz		
Grains/Grasses/Pseudograins					
Buckwheat		Oats		Rye	
Teff					
Meat					
Lamb	3-oz	Venison/deer	3-oz		
Miscellaneous					
Herb Tea	16-oz	Sea Salt		Spirulina	6-T
Mollusks					
Clam	4-oz				
Nuts and Seeds					
Almond	2-oz	Chestnut	2-oz	Pumpkin	2-oz
Walnut	2-oz				
Oils					
Almond Oil	1-T	Cod Liver Oil	1-T	Soybean Oil	1-T
Walnut Oil	1-T				
Spices and Seasonings					
Basil		Bay Leaf		Cayenne	
Chili		Oregano		Sage	
Vegetables					
Alfalfa Sprouts	8-oz	Asparagus	8-oz	Avocado	8-oz
Beet	8-oz	Broccoli	8-oz	Kidney Bean	8-oz
Leek	4-oz	Mung Sprouts	8-oz	Navy Bean	8-oz
Potato	8-oz	Radish	3-oz	Soy(fermented)	6-oz
Spinach	8-oz	Squash	8-oz	Watercress	4-oz

ROTATION DIET

Thursday

Crustaceans					
Lobster	4-oz				
Fish					
Anchovy	4-oz	Flounder	4-oz	Salmon/lox	4-oz
Snapper	4-oz	Sole	4-oz	Swordfish	4-oz
Fowl					
Chicken	4-oz	Egg-duck	2-oz	Game Fowl	4 oz
Fruit					
Apple	4-oz	Blackberry	8-oz	Lime	4-oz
Pear	4-oz	Persimmon	8-oz	Pineapple	8-oz
Pomegranate	6-oz	Tangerine	4-oz	Watermelon	8-oz
Grains/Grasses/Pseudograins					
Amaranth		Barley		Corn	
Rice (white)					
Meat					
Beef	3-oz				
Miscellaneous					
Miso (hatcho)	1-T	Sea Salt			
Mollusks					
Oyster	4-oz				
Nuts and Seeds					
Flax	2-oz	Hazelnut/filbert	2-oz	Pecan	2-oz
Pistachio	2-oz	Sesame/tahini	2-oz		
Oils					
Corn Oil	1-T	Flax Seed Oil	1-T	Olive Oil	1-T
Sesame Oil	1-T				
Spices and Seasonings					
Curry		Horseradish		Mustard	
Paprika		Thyme			
Sugars					
Sucanat	1-T				
Vegetables					
Artichoke	8-oz	Bell Pepper	8-oz	Cabbage	8-oz
Carrot	8-oz	Celery	8-oz	Eggplant	8-oz
Green Peas	8-oz	Lettuce-romaine	8-oz	Lima Bean	6-oz
Olive	2-oz	Onion	6-oz	Sweet Potato	12-oz
Tomato	8-oz				

ROTATION DIET

Friday

Crustaceans					
Shrimp	4-oz				
Dairy					
Ghee	2-T	Sheep Cheese	2-oz		
Fish					
Bass	4-oz	Catfish	4-oz	Perch	4-oz
Pike	4-oz	Trout	4-oz		
Fowl					
Duck	4-oz	Goose	4-oz		
Fruit					
Banana	4-oz	Blueberry	8-oz	Cherry	8-oz
Coconut	8-oz	Cranberry	4-oz	Figs (dry)	2-oz
Grapes	8-oz	Nectarine	4-oz	Papaya	8-oz
Peach	4-oz	Raisins	2-oz		
Grains/Grasses/Pseudograins					
Millet		Quinoa		Triticale	
Wheat					
Meat					
Pork	3-oz	Rabbit	3-oz		
Miscellaneous					
Herb Tea	16-oz	Sea Salt		Seaweed/kelp	1-oz
Tofu	5-oz				
Mollusks					
Scallops	4-oz				
Nuts and Seeds					
Brazil	2-oz	Peanut	2-oz	Pine	2-oz
Sunflower Seed	2-oz				
Oils					
Peanut Oil	1-T	Safflower Oil	1-T	Sunflower Oil	1-T
Spices and Seasonings					
Dill		Garlic		Ginger	
Mace		Peppermint			
Sugars					
Molasses	1-T				
Vegetables					
Brussels Sprouts	8-oz	Cauliflower	6-oz	Chick Peas	4-oz
Cucumber	8-oz	Kale	8-oz	Kohlrabi	8-oz
Lentils (dry)	2-oz	Lettuce-red Leaf	8-oz	Mushroom	4-oz
Parsley	4-oz	String Bean	8-oz	Sunflower Sprouts	4-oz
Turnip	8-oz	Wheat Sprouts	6-oz		

ROTATION DIET

Saturday

Crustaceans					
Crab	4-oz				
Dairy					
Goat Cheese	2-oz	Goat Milk	8-oz		
Fish					
Codfish	4-oz	Haddock	4-oz	Halibut	4-oz
Tuna	4-oz	Turbot/white	4-oz		
Fowl					
Turkey	4-oz				
Fruit					
Cantaloupe	1-oz	Cranberry	8-oz	Date	15-oz
Grapefruit	2-oz	Guava	8-oz	Honeydew	1-oz
Kiwi	4-oz	Mango	2-oz	Plum/prune	10-oz
Raspberry	8-oz	Strawberry	8-oz		
Grains/Grasses/Pseudograins					
Buckwheat		Oats		Rye	
Teff					
Meat					
Lamb	3-oz	Venison/deer	3-oz		
Miscellaneous					
Herb Tea	16-oz	Sea Salt		Spirulina	6-T
Mollusks					
Clam	4-oz				
Nuts and Seeds					
Almond	2-oz	Chestnut	2-oz	Pumpkin	2-oz
Oils					
Almond Oil	1-T	Cod Liver Oil	1-T	Soybean Oil	1-T
Walnut Oil	1-T				
Spices and Seasonings					
Bay Leaf		Cayenne		Oregano	
Vegetables					
Alfalfa Sprouts	8-oz	Asparagus	8-oz	Avocado	8-oz
Beet	8-oz	Broccoli	8-oz	Kidney Bean	8-oz
Mung Sprouts	8-oz	Potato	8-oz	Radish	3-oz
Soy(fermented)	6-oz	Spinach	8-oz	Squash	8-oz
Watercress	4-oz				