



# G-DAP

## Gut and Detox Assessment Profile

This profile is designed for the functional medicine practitioner as a way to help screen for the most common processes that are often at the root cause of disease.

This profile looks at the most important markers of:

- Leaky Gut
- Detoxification
- Cardiovascular Disease
- Cancer prevention
- Dementia

By gathering a snapshot of these most important issues all in one profile, a clinician is able to see what process may be most important for that patient. This profile can provide more direction as to what to look at in more detail and is a standalone for understanding which direction to treat.



## What Is Included?



### Gut Based Markers

**Zonulin** – This is a protein that tells tight junctions to open governing the process of leaky gut. Zonulin goes up before the onset of conditions such as auto-immune disease, as leaky gut is the environmental trigger that causes the change in genetic expression.

**DAO** – This is the enzyme that degrades histamine. It is made in the microvilli. When it is low it tells you the gut lining is atrophied, and also lets you know that the person will not handle histamine appropriately.

**Histamine** – Higher levels show reasons for underlying inflammation.

**LPS IgG, IgA and IgM** – These are antibodies that go up when the immune system is triggered secondary to bacteria shedding endotoxin. These endotoxins damage tight junctions, damage lipids, and cause immune system dysregulation.





## Detox Markers

**8-OHdG** – This is a marker of DNA damage. As it increases so does the risk of cancer. When it is high it is also associated with more cardiac health and mitochondrial health.

**% Reduced Glutathione** – We are one of the only labs that looks at reduced glutathione, the most active component. Glutathione is the major intercellular antioxidant for the liver, lung, brain, and kidney. Glutathione levels are associated with an improvement in longevity.

**Total Glutathione** – Tells you your amount of reduced glutathione as well as oxidized glutathione. By looking at both you know if you need to increase glutathione, or aid in recycling glutathione back to its reduced state.

**F2-Isoprostane** – This is a lipid peroxide and shows if oxidative stress is damaging fats in your body. When it is high, you do not see recovery of the brain and myelin sheath even when good healthy fats are utilized. It is also found in plaque tissue and associated with cardiovascular disease.

## Cardiovascular Markers

**Oxidized LDL** – This is the most predictive marker for cardiovascular disease. When LDL is oxidized this is the step that leads to plaque formation. It also tells you that oxidative stress is impacting proteins in the body.

**F2-Isoprostane** – This fat is also a player in plaque formation.

**HgA1c** – As it increases, so does risk of metabolic syndrome.

**hsCRP** – Is a general marker of inflammation, and also is associated with an increased risk of stroke.

## Cancer Prevention Markers

**8-OHdG** – As this goes up so does our risk of cancer. Using antioxidants to lower is important.

**F2-Isoprostane** – In prostate cancer, it was found that those who had higher levels of F2-Isoprostane were more likely to develop more aggressive cancer types.

**Glutathione %Reduced and Total** – These antioxidants protect the DNA from potential mutations.

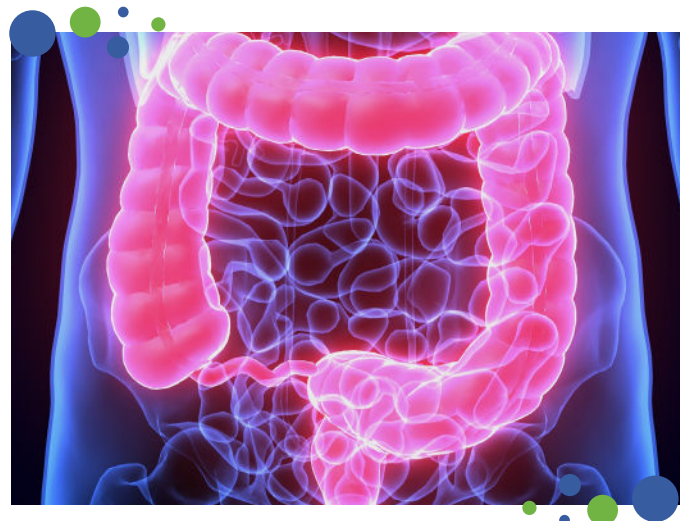
## Dementia Markers

**F2-Isoprostane** – When it is high it compromises neuroprostanes that are critical for brain health.

**Vitamin D** – low levels of Vitamin D are associated with cognitive decline.

**8-OHdG** – When it is higher increases progression of cognitive decline.

This one profile combines markers to tell you if your gut is at risk, if you have poor ability to detoxify, and if you are at increased risk of cardiovascular disease, cancer, and dementia.





MARKERS Level	Detox/ Ox Stress	Gut	Immune/Cancer Prevention	Cardio	Memory
<b>Glutathione</b> (% Reduced/Total) <b>(Low)</b>	Major Intercellular Antioxidant	Leaky Gut = Major cause ox stress	Reduces DNA mutations	Decrease glycoalyx	Antioxidant of brain
<b>F2-Isoprostane</b> <b>(High)</b>	Oxidized Lipids = Decrease Neuroprostane			Plaque former	Damaged Neuroprostanes
<b>8-OHdG</b> <b>(High)</b>	DNA damage		Increases Risk	Mitochondrial dysfunction	
<b>OxLDL</b> <b>(High)</b>	Increases secondary to toxins			Increase risk	Damage Neuroprostane, Decrease nerve conductio
<b>LPS</b> <b>(High)</b>	Leading cause of NAFLD	Damages tight junctions	Decrease immune reserves, decrease Treg cells	Oxidizes LDL, Damages Heart	Induces Depression/Anxiety
<b>Zonulin</b> <b>(High)</b>	Leaky Gut = Major cause of ox stress	Opens tight junctions			Leaky Blood Brain Barrier
<b>DAO</b> <b>(Low)</b>	Impairs detox	Atrophy of gut lining causing permability	Increases TH2 and TH17 branch		Anxiety, Decrease focus
<b>Vitamin D</b> <b>(Low)</b>		If low but patient is taking, possible leaky gut	Decreases risk	Decrease risk	Decrease risk
<b>hsCRP</b> <b>(High)</b>	Slow liver detox	IL-6 secondary to leaky gut can increase		Most predictive cardiac marker	Increase risk
<b>HgA1C</b> <b>(High)</b>	Impairs conjugation	Glycation damages tight junctions and negatively influences microbiome	Increased risk >5.7	Metabolic Syndrome	> 5.2 associated with diminishing brain size
<b>Histamine</b>	Congests the liver	Can be a result of leaky gut			Causes irritability and anxiety

