MELISA®
(MEmory Lymphocyte Immuno-Stimulation Assay)

MELISA® is the world's leading test system for confirming immune responses to metals and other antigens.
“Technology is moving faster than biology and human evolution. New chemical entities are continuously being introduced to society and increased availability is occurring too rapidly for the human body to adapt. Metals and environmental toxins negatively impact the Neuro-Endo-Immune (NEI) SUPERSYSTEM®, which is comprised of the nervous, endocrine, and immune systems. Dysregulation of the immune system is a very likely cause for the increases we are seeing in hypersensitivities and/or autoimmune diseases.”

Gottfried Kellermann, PhD
CEO NeuroScience, Inc.

**Patients are exposed to foreign materials on a daily basis.**
Constant exposure to these foreign materials can lead to an ongoing immune response and chronic inflammation in patients with hypersensitivities.

**Common sources of exposure:**
- Dental amalgams and implants
- Cosmetics and jewelry
- Foods and cookware
- Occupations
- Orthopedic and electrical implants
- Vaccinations
- Preservatives
- Thimerosal
- Medications
- Pesticides/organophosphates
- Chronic infectious diseases

**Symptoms of hypersensitivity to foreign materials include:**

- Persistent fever
- Musculoskeletal pains and fibromyalgia
- Chronic headaches and migraines
- Chronic fatigue
- Impaired cognitive function
- Symptoms waxing and waning
- Unexplained rashes
- Lethargy
- Thyroid disorders

**Chronic inflammation caused by hypersensitivity can lead to many conditions such as:**

- Psycho-neuro-immunological diseases
- Autoimmune diseases
- Gastrointestinal diseases
- Skin diseases
- Joint problems

**MELISA® is the premier test** for identifying hypersensitivity to metals and other foreign materials that may be the root cause of NEI SUPERSYSTEM® imbalances.

MELISA® is a registered trademark of the MELISA® Medica Foundation.
MELISA® measures Type-IV delayed hypersensitivity to foreign materials (antigens and pathogens).¹

A Type-IV hypersensitivity reaction is mediated by memory T-lymphocytes that have had prior contact with a given antigen. Not all foreign materials are in easy-to-access locations for measurement (such as hair, nails, and serum). Many foreign materials hide inside cells. Therefore, analysis of foreign material levels in serum or hair can lead to false negative test results.

T-lymphocytes travel throughout the body. While circulating, T-lymphocytes encounter - and remember - even very low levels of foreign materials. Because MELISA® assesses lymphocyte response and identifies memory cell response, the MELISA® test offers higher sensitivity than other tests.² Patients who previously tested negative for toxic levels using other methodologies may test positive for hypersensitivity with MELISA®.³

Other Tests Measure Toxicity

<table>
<thead>
<tr>
<th>TOXIC ELEMENTS</th>
<th>RESULT µg/g</th>
<th>REFERENCE RANGE</th>
<th>68TH</th>
<th>95TH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>0.6</td>
<td>&lt; 1.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>0.1</td>
<td>&lt; 0.40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hair, nails, or serum specimens may show levels of a metal below the official “safe limit”. However, the patient may still be hypersensitive to the metal, which can be determined with MELISA®.³

MELISA® Detects Hypersensitivity

MELISA® testing:
- Extremely sensitive testing methodology
- Identifies memory T-lymphocyte response
- Confirms hypersensitivity reaction to antigens

There is no such thing as a “safe limit” for hypersensitive individuals.⁴

For more information visit www.neuroscienceinc.com/MELISA.

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Metals available for testing:

- Aluminum
- Arsenic Acid
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Copper
- Ethylmercury
- Gold
- Inorganic Mercury
- Lead
- Manganese
- Methylmercury
- Molybdenum
- Nickel
- Palladium
- Phenylmercury
- Platinum
- Silver
- Thimerosal
- Tin
- Titanium Calcium
- Titanium Dioxide
- Vanadium

MELISA®- Not just for metal sensitivity testing

Future applications for MELISA® testing include:

- Pathogens
- Organophosphates
- Preservatives
- Colorings
- Perfumes
- Foods
How is the test performed?\(^5\)

- White blood cells are isolated from whole blood and tested against the foreign material chosen.
- Test results will indicate if there is a positive reaction and hypersensitivity to a given antigen.
- The level of reactivity and immune response is measured as a Stimulation Index (SI).
- Reactivity confirms previous exposure to an antigen.

**Introduce White Blood Cells to Antigens**

**Memory T-Lymphocyte Response**

<table>
<thead>
<tr>
<th>Metals</th>
<th>Parameter(s)</th>
<th>Negative</th>
<th>Positive</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum (Al)</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inorganic Mercury (Hg)</td>
<td>12.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>9.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methylmercury (MeHg)</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel (Ni)</td>
<td>&gt;15.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thimerosal (C(_2)H(_3)HgNaO(_2)S)</td>
<td>&lt;1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide (TiO(_2))</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Sample taken: 11/23/2009, 12:30 PM |

References:


*MELISA*\(^\circledast\) is a registered trademark of the MELISA\(^\circledast\) Medica Foundation.