

Overview

Key Points

- All human diseases are caused by the interaction between genetic predisposition and modifiable environmental factors.
- Slight variations in genetic makeup called single nucleotide polymorphisms (**SNPs** – pronounced “snips”) are associated with *almost* all diseases.
- The genetic variations (**SNPs**) identified on **GENOVATIONS™** predictive genomic profiles do *not* cause disease by themselves. Rather, they influence a person’s susceptibility to specific environmental factors that increase disease risk.
- The **SNPs** in each genomic profile are prevalent and clinically relevant, and their expression is potentially modifiable and measurable.
- Predictive genomic testing now allows us to assess biochemical individuality and personal disease risk with greater precision than ever before.
- Predictive genomic diagnostics can provide insight into who will respond favorably (*or react adversely*) to a particular drug or supplement therapy, *and* which nutrients are optimal for an individual’s health and well-being.
- **GENOVATIONS™** predictive genomic profiles provide a clinical foundation for designing comprehensive, customized prevention and treatment plans that optimize health and reduce disease risk in patients.
- After genomic testing, the impact of clinical interventions on genetic expression can be specifically tracked and monitored using functional laboratory assessments.
- Results for all **GENOVATIONS™** predictive genomic profiles are protected by a strict confidentiality policy.

For test kits, clinical support,
or more information contact:
Great Smokies Diagnostic Laboratory
63 Zillicoa Street
Asheville, NC 28801
800.522.4762
828.252.9303 fax
cs@gsdl.com

More detailed
publications are
also available on
our website at:
[www.
genovations.com](http://www.genovations.com)

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Overview

Virtually all human diseases result from the interaction of genetic susceptibility factors and modifiable environmental factors, broadly defined to include infectious, chemical, physical, nutritional, and behavioral factors.

Office of Genetics
& Disease Prevention
Centers for
Disease Control
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Background

The monumental accomplishment of the Human Genome Project, with its decoding of nearly 40,000 genes in the human body, has opened up an entirely new spectrum of knowledge, one offering a tremendous potential for improving our health and well-being.

With the advent of **GENOVATIONS™**, practitioners and their patients can now benefit from a truly personalized health-care approach that harnesses this powerful new knowledge. **GENOVATIONS™** predictive genomic profiles evaluate a carefully selected group of genetic variants in each patient, providing a previously unseen “glimpse” into his or her potential health future. This empowers the physician to best help the patient reduce the risk of disease without waiting for symptoms to appear by using earlier, more precise, and more customized interventions.

Genomic Profiles

GENOVATIONS™ genomic profiles identify slight variations in an individual’s genetic code called single nucleotide polymorphisms (**SNPs**). The **SNPs** evaluated on each profile are associated with an important physiological imbalance or health condition. Each **SNP** is carefully selected based on four critical requirements:

- 1 Relevant** The **SNP** exerts direct influence over specific biochemical imbalances that create known symptom clusters or diseases.
- 2 Prevalent** The **SNP** is relatively common among the general population.
- 3 Modifiable** The expression of the **SNP** is modifiable by environmental factors, *such as* nutrition, diet, toxic exposure, and lifestyle.
- 4 Measurable** The impact of clinical interventions to modify the expression of the **SNP** can be monitored by using specialized functional assessments.

GENOVATIONS™

Overview

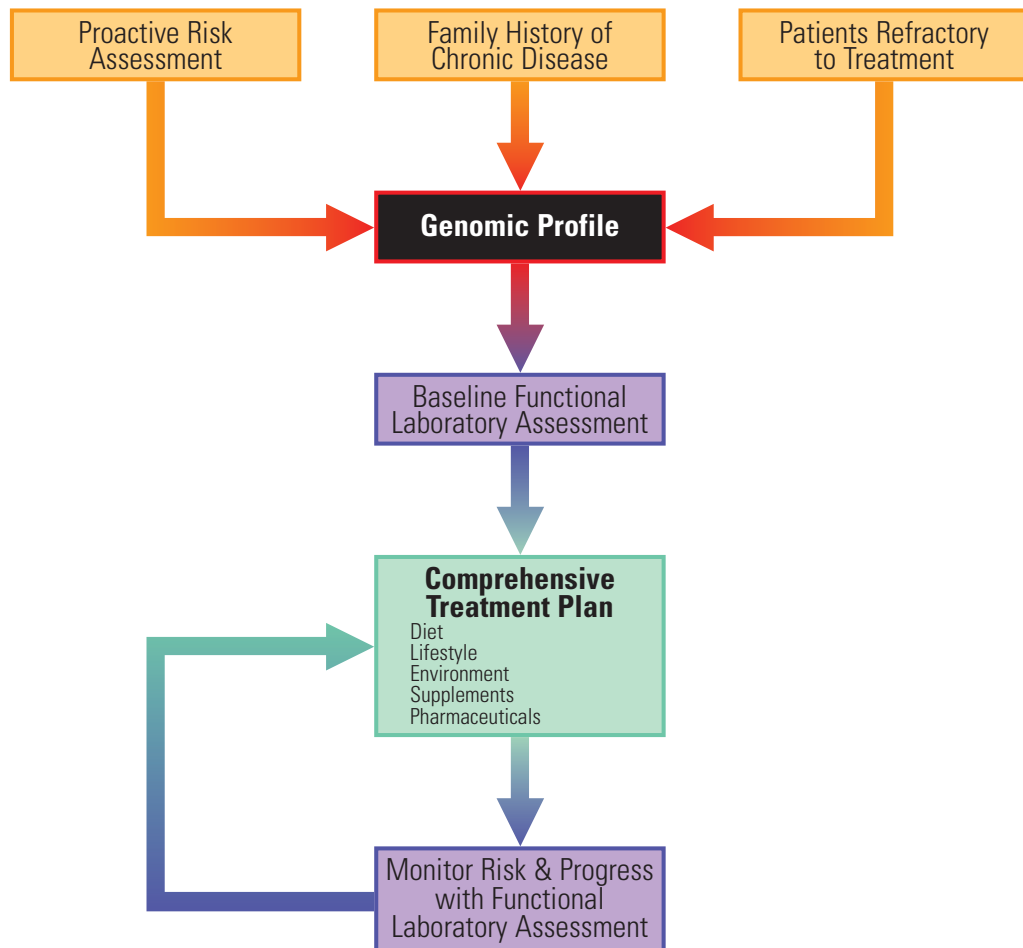
Clinical Applications

Predictive genomic diagnostic profiles offer expanded clinical insight that can provide improved healthcare for all patients. However, the potential for clinical benefit is particularly strong in three patient groups:

- **Proactive Risk Assessment** to provide earlier, more precise, and more customized preventive intervention for proactive patients
- **Family History** to identify inherited risks within families that can be modified by environment
- **Challenging Cases** to gain increased insight into multifactorial conditions and to provide more effective treatment options based on biochemical individuality

Testing Protocol

The Flow Chart below outlines the recommended testing protocol for identifying genetic predisposition (*genotype*) and monitoring its expression (*phenotype*) before and after treatment.



Sample Requirements

SNP analysis is performed on either a blood sample or a buccal sample from the patient, depending on the clinician's preference and the test requirements. *Refer to the requisition to determine the specimen requirements for each profile.*

Blood This standard specimen choice evaluates **DNA** in the nuclei of white-blood cells from a single blood sample. An in-clinic blood draw ensures 100% patient compliance.

Buccal Rinse This noninvasive specimen option requires two morning mouth rinses, which the patient can collect easily at home. DNA is analyzed in the nuclei of cells sloughed off from the inside of the cheek.

Interpreting Genotype Results

SNP 1

Chromosome 12

c677t



CATG[G→A]GGAC

www.genovations.com/SNP

How to read a Genomic Profile:

● *Protein Name*

● *Gene Location*

● *Polymorphism Location*

● *Composite Result*

● *SNP Variance (highlighted)*

● *Internet Information*

Test commentary is customized and includes:

Health Implications *Outlines disease risks associated with specific **SNP** results*

Minimizing Risk *Suggests possible dietary, environmental, lifestyle, supplement, and pharmaceutical interventions to optimize genomic potential of patient*

Further Evaluation *Alerts to the potential for related physiological imbalances and the clinical need for follow-up assessment*

Patient Privacy

GENOVATIONS™ is dedicated to safeguarding the confidentiality of all patient information. Each patient's genetic test results are protected by a security code that is disclosed only to the health care provider ordering the test. This strict policy of confidentiality covers *all* patient records, both electronic *and* hard copy.

Support Materials

- Overview
- Patient Guide
- Physician Guide
- Physician Guide CD-ROM Companion
- Genomic Profile Guide
- Website: www.genovations.com