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Haptoglobin Type and Complications in Diabetes Mellitus Patients

- **Haptoglobin type is directly associated with the risk of developing cardiovascular disease and end-stage renal disease in Diabetic mellitus patients**
- **Diabetic patients (both Type I & Type II) with the Hp 2-2 genotype, have a 2-3 fold increased risk of developing cardiovascular disease and end-stage renal disease as compared to Hp 2-1 and Hp 1-1 individuals**
- **Vitamin E reduced myocardial infarction and cardiovascular death by 43% and 55%, respectively in diabetic patients with Hp 2-2 genotype**

Haptoglobin Typing ELISA

A novel ELISA kit intended for rapid and simple determination of Haptoglobin (Hp) type.

Rapid

1 ½ hours to process up to 92 samples

Accurate

High sensitivity, specificity, PPV & NPV (see clinical performance data)

Clear

Simple interpretation of results

Automated

Compatible with ELISA automation

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Should Vitamin E be Given to Individuals with Diabetes?

It Depends on your Haptoglobin Type

The public health burden of cardiovascular and renal complications from Diabetes Mellitus (DM) is over $100 billion per year in the USA alone and the problem is increasing. Medications to treat these complications are extremely expensive and require lifetime use. The purpose of this diagnostic test is to provide a once in a lifetime test that will indicate whether a particular DM individual is at high risk for these diabetic complications and may benefit from Vitamin E supplementation. Savyon Diagnostics is offering a novel ELISA kit intended for rapid and simple Haptoglobin (Hp) Typing. This test will give the patient and the physician information as to which of the three Hp types the patient has - Hp 1-1, Hp 2-1 or Hp 2-2.

Clinical Performance of the Kit:

n = 8046	Hp 2-2 (%)	Hp 1-2 (%)	Hp 1-1 (%)
Sensitivity	99.0	97.4	92.8
Specificity	98.1	97.7	99.8
PPV	97.5	97.2	98.8
NPV	99.3	97.9	99.0

Taken from reference 17.

Recent studies suggest that in Hp 2-2 DM individuals, vitamin E reduced myocardial infarction and cardiovascular death by 43% and 55%, respectively. In the ICARE study, approximately 1500 DM individuals with the Hp 2-2 genotype were randomized to vitamin E or placebo. One year after initiating the study, the primary composite outcome of cardiovascular death, stroke and myocardial infarction was reduced by over 50% in Hp 2-2 DM individuals receiving vitamin E compared to placebo. Therefore these data suggest a pharmacogenetic algorithm whereby all individuals with DM would be tested for the Hp genotype and vitamin E prescribed only to those with the Hp 2-2 genotype.

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References:
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