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Medizinisches Fachlabor Weiden

Gemeinschaftspraxis für Laboratoriumsmedizin und Mikrobiologie

Dr. F. Buchwald / Dr. Dr. H.-W. Schultis und Kollegen

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Clinic: International Biomedisch Centrum

Geb.Dat. XX.XX.XXXX



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Test date: 18.10.2010

Sample validation/ release: 21.10.2011

Material: Filterpaper

Glutathion-S-Transferase M1 **Resultat: Genotyp 0 / 0 (homozygote)**

The Glutathione S-transferases (GST) family of enzymes plays an important role in detoxification by catalyzing the conjugation of many hydrophobic and electrophilic compounds with reduced glutathione. In the Phase II Reaction they are involved in the detoxification of many environmental toxins, including mercury, formaldehyde, PAHs, styrole, ethyleneoxide etc.

Since many GSTs are polymorphic, there has been considerable interest in determining whether particular allelic variants are associated with altered risk for various disorders.

The homozygote Genotyp 0 / 0 (homozygote) as detected here resembles missing detoxification activity.

50% of the caucasion population shows this deleted genotype.

GSTM1 deleted genotype may be a useful genetic biomarker for thyroid carcinoma susceptibility in young subjects. The absence of this enzyme seems to have a role in the development of thyroid carcinoma; however, the mechanism still needs further study.¹ Individuals homozygous for the GSTM1 gene deletion, especially in the under-41 age group with an average smoking history of 16-30 pack-years are more prone to chronic lung diseases.²

1) E Canbay, S Dokmetas, El Canbay, M Sen, F Bardakci Higher glutathione transferase GSTM1 0/0 genotype frequency in young thyroid carcinoma patients. *Curr Med Res Opin* (2003) 19: 1022 Baranova H, Perriot J, Albuissou E, Ivaschenko T, Baranov VS, Hemery B, Mouraire P, Riou N, Malet P. Peculiarities of the GSTM1 0/0 genotype in French heavy smokers with various types of chronic bronchitis. *Hum Genet.* 1997 Jun;99(6):822-6.

Leistung im Synlab Verbund

Validierung: Dr. med. Dr. rer nat H-W.Schultis

Reporting: Dr. E.Blaurock-Busch PhD