GLUTATHIONE-S-TRANSFERASE p
(GST-p)

Glutathione-S-transferase p (GST-p) defines a lower subclass of the glutathione-S-transferases. The main classes are α, π and μ, whereas the class α and π can be found in the entire population, and μ exists only in half of the population. Approx. 7% of the total GST occurs as **GST-p**.
It is a soluble cytoplasmatic protein with a molecular weight of 47.000 D and an isoelectric point of < pH5.

GST-p has a catalytic centre with a highly specific binding site for glutathione and another binding site for the substrate with low specificity.
Its function is to couple glutathione (GSH) onto different substrates. These include xenobiotics of all classes (antibiotics, herbicides, insecticides, carcinogens etc.). Through coupling, the substrates become soluble and can be excreted directly via the bile/urine or via mercapturonic acid.
The **GST-GSH-system** is one of the most important defense systems against peroxides and electrophilic agents.
Increased concentrations occur in neoplastic tissues, tissues with multi-drug-resistance and in hamolytic illnesses. Furthermore, phases of reduced and subsequently increased concentrations arise after an excess of substrates (e.g. paracetamol overdose).

The **GST-p-**level in urine from patients following kidney transplantations was monitored. The results showed a value of 19.0 ± 2.0 ng/ml in patients, who had an acute rejection, whilst stable patients showed a value of 5.8 ± 0.44 ng/ml. The threshold value had a level of 80 % over this value, when none of the patients from the stable group exceeded this value.

The **GST-p-**level also increases in cases of complications following transplantation, such as acute tubular necrosis (ATN) and renal infarction. (ATN: approx. 18-fold higher).

The increase and decrease of the **GST-p** level, respectively occurs very quickly and approximately 1-2 days earlier than the increase of serum creatinine.

Furthermore, **GST-p** is increased in precancerous or dysplastic lesions.

Specific antibodies for the human isoform p.

Suitable for different matrices (plasma, serum, tumor tissue, etc.)

BASELINE VALUES

Plasma, Serum:
5-50 ng/ml

Also to obtain as RIA
100 Determinations
K 7961

INDICATIONS

- Tumor marker
- Multi-drug resistance
- Potential marker for the elimination of mercury
- Antioxidative enzyme

LITERATURE

1. Sundberg et al. (1994) *Nephron* 66: 162-169
2. Hayes et al. (1989) *Proceedings of 3rd International GST Conference*, Edinburgh, Scotland
3. Sundberg et al. (1994) *Nephron* 67: 308-316

Sample volumen	25 µl
Matrix	Serum, plasma, tissue
Detection limit	9.1 ng/ml
Standards	9.4 – 600 ng/ml
Inkubation time	Over night; 4 h; 45 min; 10 min
ELISA	
Tests	96 Determinations
Art. No	K 7960