

QUANTIFICATION OF GLUTATHIONE -TRANSFERASE SUBUNITS IN RAT COLON CELLS BY HPLC AND COMPARISON TO CORRESPONDING LIVER DATA

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The Glutathione S-Transferase isoenzymes (GSTs) are multifunctional phase II-enzymes, which may protect against cancer by inactivating carcinogens. Subunits may be determined by Western blotting or HPLC. Thus, using the former method, we have shown rat colon cells to contain predominantly subunit π followed by μ and α . We have now performed a comparative analysis of the different subunits in rat colon and liver cells of the same rat using HPLC. The cell number was taken as a basis to compare GST subunit levels in the two tissues. We observed that the total amount of GSTs in liver was higher than in the colon; different patterns of subunits occur in rat liver (main subunits: 1,2,3,4) and in colon cells (subunits identified in most rats: 7,4,3,2). The differences were within and between groups of rats fed a semi purified diet for different lengths of time. A lower interindividual variation of GST content was observed when evaluating the data based on the cell number than when taking the protein content as basis for calculation. The analysis according to the cell number is expected to yield results which more sensitively reveal modulation by external factors.

References

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ABSTRACTS