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Een gekleurd reagens op SH groepen

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SUMMARY

The yellow sulfhydryl reagent, N-(4-dimethylamino-3,5-dinitrophenyl)maleimide (DDPM) has been synthesized and its reaction with cysteine investigated. The addition product of cysteine and DDPM, S-DDPP-cysteine, was found to hydrolyse slowly to the corresponding maleamic acid, even at $p_H = 6.7$. Another reaction, which occurred at slightly acidic p_H , was an intramolecular transamidation reaction, involving the attack of the α -NH₂ group of the cysteine residue at the imide CO group, thus leading to a 1,4-thiazine derivative (Chapter II).

The reaction of DDPM with the SH group of serum albumin (bovine and human) leads to the yellow S-DDPP-serum albumins. By subjecting these to hydrolysis with pepsin, yellow S-DDPP-cysteinylpeptides were formed. These were isolated from the digest by adsorption on talc, paperelectrophoresis and paperchromatography. The amino acid sequences were determined by classical methods, using 1-fluoro-2,4-dinitrobenzene for N-terminal amino acid determination, carboxypeptidase for the C-terminal amino acid determination and subtilisin hydrolysis and partial acid hydrolysis to obtain peptidefragments. The amino acid sequence: leu-glu(NH₂)-asp-glu-glu(NH₂)-glu(NH₂)-cysH-pro-phe was found to occur in bovine as well as in human serum albumins (Chapter III).