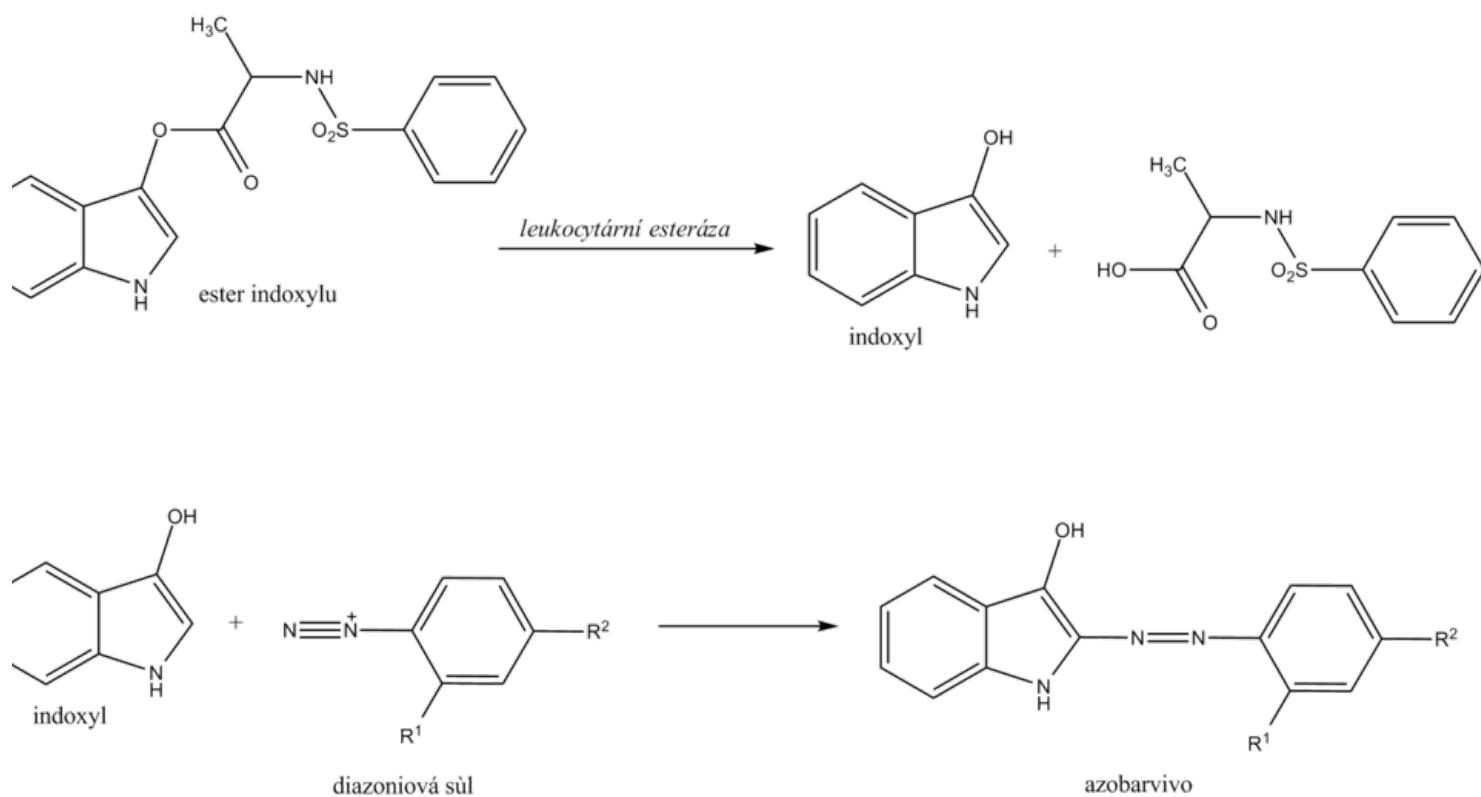


Determination of leukocytes in urine

Chemical determination of leukocytes with a diagnostic strip is based on the detection of **esterases** that are abundant in granulocytes. Granulocyte esterases catalyze the hydrolysis of **indoxyl ester** to free indoxyl. The indoxyl then reacts with the stable diazonium salt to form the appropriate azo dye. In the case of a negative reaction, the zone turns cream yellow; in the case of a positive reaction, it changes to a pink to purple hue.



Chemical examination of leukocytes does not replace microscopic examination. On the other hand, it is possible to detect lysed leukocytes (eg in hypotonic urine) in this way, which is not possible with microscopic examination.

Leukocyturia is a symptom of inflammation of the kidneys or urinary tract. The cause of most positive findings is a bacterial infection of the urinary tract. In case of a positive leukocyte finding, it is recommended to supplement the examination of proteinuria, hematuria, nitrituria, examination of urinary sediment and further microbiological examination.