trypan blue. The object of the research was the native rat bone marrow red cells obtained by washing it out of the tubular bones with cold saline. Native cells were exposed to an aqueous willow bark extract at an initial concentration of 40%. The researched solutions were introduced into the tablet with the help of a dispenser, and the dose was reduced by 2, 4, 8, 16, 32 by rolling, and the bone marrow suspension was added to each cell with the same dispenser. Native rat bone marrow cells in suspension with saline were used as negative controls. The control of the cytotoxic effect was carried out after 15, 45, 90 minutes. 0.1% solution trypan blue was used to determine live and dead cells. Cells with damaged cytoplasmic membrane, which were stained in blue, were assessed as dead. In each experiment, 100 cells were counted. The number of viable / non-viable cells in the hemocytometer was counted, and the results were expressed as a percentage of non-viable cells of their total number.

Result. Evaluating the results of cytotoxicity of an aqueous extract of white willow bark on the native red bone marrow cells in comparison with the control, a significant cytotoxic effect was observed only when the cells came into contact with the maximum concentration of the extract upon exposure to 45 minutes. Observations obtained against a background of other concentrations in the range of 0.625, 1.25, 2.5, 5, 10, 20% showed no significant effect on cell viability. These results indicate the relative safety of the researched extract.

A NEW ENZYME-KINETIC PHOTOMETRIC METHOD FOR DETERMINATION OF THE DEQUALINIUM CHLORIDE

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Introduction. A novel enzyme-kinetic method for the determination Dequalinium chloride (DCl) in aqueous solutions by means of H_2O_2 – *4*-Ethoxyaniline (*p*-Ph) detection system has been proposed. In the presence of cholinesterase (ChE), acetylcholine (ACh) was hydrolyzed to choline and acetic acid. After that H_2O_2 could interact with unreacted ACh and could formed CH_3CO_3H which oxidize *p*-Ph to Azoxyphenetole (APh), resulting in a light brown color developing and an increase of the absorbance at 350 nm. A new kinetic photometric method developed for estimating ChE activity using ACh as substrate measures the rate APh formation and assay of the DCl is highly sensitive with a LOQ of $0.24 \cdot 10^{-7}$ mol·L^{-1}. The obtained assay is fairly simple, inexpensive, which may be used for the screening trace amount of DCl.

Aim. A new sensitive kinetic photometric method for Dequalinium chloride determination has been proposed.

Material and methods. For light absorbance of solutions "photoelectric concentration colorimeter («CPC-2»)" was used (Zagorsky Optical & Mechanical Plant, Russia). Using the filter №2 and quartz cell of 1.0 cm. pH value was measured at Ionomer I – 160M laboratory (Belarus) by using EGL 43-07. For research reagents were used: *p*-Phenetidine (4 – ethoxyaniline – 98%) (SIGMA – ALDRICH). Pharmacopoeia acetylcholine chloride medicine – 0.2 g per amp/5 ml (manufactured by "VECTOR" – State Science Center of virology and biotechnology in Russian Federation" (Russia). Dry protein drug of cholinesterase from horse serum was taken – 80 mg / fL (VI class), 22 AE/mg. "Stabilized Hydrogen Peroxide 30-40%" (LLC "Inter – Synthes", Boryslav, Ukraine).

Results and discussion. The content of Dequalinium chloride was calculated using the calibration graph. The calibration curve was linear in the concentration range of $(2.12\text{-}6.33) \cdot 10^{-7}$ mol·L^{-1} of DCl with a correlation coefficient r=0.999. The LOQ was $0.24 \cdot 10^{-7}$ mol·L^{-1}.

Conclusions. A new sensitive and specific enzyme-kinetic method for determination of Dequalinium chloride was presented. The method has satisfactory reproducibility and accuracy. The RSD ≤3.34% (δ = +1.42% ... – 0.47%) at determining the concentration of Dequalinium chloride in model solutions.