

**2021**

**vol. 31, issue 1**

# problems of cryobiology and cryomedicine

## contents

### original contributions

#### theoretical and experimental cryobiology

- Shcheniavsky I.I.* Anti-apoptotic effect of synthetic leu-enkephalin dalargin on rat leukocytes in cold stress model *in vivo*..... 3
- Kuleshova L.G., Kovalenko I.F., Kovalenko S.Ye., Tsibulko T.S., Gordienko O.I.* Transport characteristics of plasma membranes of PK-15 passaged cells..... 14
- Lomako V.V., Pirozhenko L.M.* Blood leukocytes in young and aged rats after whole body cryostimulation ( $-120^{\circ}\text{C}$ )..... 23

#### cryopreservation of biological resources

- Denysova O.M., Zhegunov G.F.* Cryopreservation of canine erythrocytes using dimethyl sulfoxide, polyethylene glycol and sucrose..... 38
- Prystalov A.I., Bobrova O.M., Kuleshova L.G.* Application of vacuum infiltration in cryopreservation of isolated grape buds..... 51
- Mazur S.P., Rogulska O.Y., Revenko O.B., Volkova N.O., Petrenko O.Y.* Isolation of human dental pulp stem cells and their characteristics before and after cryopreservation..... 58
- Pakhomov O.V.* Post-cryo survival of rat testicular interstitial cells in hydroxyethyl starch-based media..... 70
- Prokopiuk O.S., Shevchenko M.V., Prokopiuk V.Yu., Musatova I.B., Safonov R.A., Prokopiuk O.V.* Isolation and cryopreservation of placental cells: search for optimal biotechniques in experimental and regenerative medicine..... 82

### short communication

- Irsan I.I., Isma S. P. P., Vivayuna I., Norahmawati E., Sukmajaya W.P., Pandiangan R.A.H., Abduh M.* Bone cells survival after liquid nitrogen freezing: does time play a role?..... 89
- Volkova N.O., Yukhta M.S., Sokil L.V., Chernyshenko L.G., Stepaniuk L.V., Goltsev A.M.* Determination of warming modes for convoluted tubules of rat's testes after vitrification..... 95

### chronicles

- In memoriam: Liudmyla V. Ostankova (July 11, 1943 – December 20, 2020)*..... 100
- Instructions for Authors..... 104