



**ABSTRACTS**

IN PERSON AND VIRTUAL MEETING  
**CRYO2022**

July 19-22, 2022

**Dublin, Ireland**

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Joint Meeting of the **Society for Cryobiology**  
and the **Society for Low Temperature Biology**

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in the goat semen freezing. In conclusion, the extenders supplemented with 40 µg/ml PC in the goat semen freezing could reduce sperm oxidative damage, decrease apoptotic level and improve sperm quality.

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**Conflict of Interest:** None to disclose

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### **P79 CONSERVING YACON (SMALLANTHUS SONCHIFOLIUS) THROUGH CRYOPRESERVATION USING THE PVS2 DROPLET VITRIFICATION METHOD**

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The perennial root crop yacon [*Smallanthus sonchifolius* (Poepp. and Endl.) Robinson], native to the Andean mountain region, is a tuberous crop mainly grown for its edible underground organs rich in inulin-type fructooligosaccharides of low caloric value. Due to habitat destruction, land degradation, and environmental changes, there has been a rapid erosion of its genetic diversity. Such condition, along with the risk of pest and diseases, creates the need to use advanced biotechnological approaches as an alternative to preserving the species' genetic material and its biodiversity. This study aims at using the Plant Vitrification Solution No.2 (PVS2) droplet vitrification

method to develop an efficient cryopreservation protocol for the long-term preservation of yacon. To carry out the experiment, apical shoot tips (2-3 mm long) were excised from 3-4 weeks old in vitro cultures of four yacon cultivars (one allooctoploid (2n=8x=58) from Ecuador, two allooctoploids from Bolivia, and two dodecaploids (2n=12x=87) from Peru). After pre-treatment (0.3M SUC+12hrs dark), these were placed in loading solution (20 min at 22°C). Three different time intervals for PVS2 dehydration at 0°C were tested (15, 30, and 60 min). Thereafter, shoot tips were exposed to ultra-rapid cooling in liquid nitrogen (1 hr) and then placed in an unloading solution for thawing (22 °C for 15 min). Next, post-cryo cultures were placed on recovery (MS or MS+1 mg/l BA). Post-thaw survival, regrowth, and quality of shoot tips were evaluated. The results showed that PVS2 is an efficient method for the cryopreservation of all tested cultivars of yacon with MS without 0.1 mg/l BA as regrowth media, and PVS2 60 min treatment duration is the most effective in providing the highest survival (87-90%) and regrowth (62-75%) rates, respectively, with no morphological abnormalities, post cryopreservation. The BOL23 genotype showed the highest shoot tip regrowth percentage (75%) post cryopreservation, followed by ECU41 (73%), PER12 (73%), PER14 (70%), and BOL22 (62%).

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### **P80 WITHDRAWN**

### **P81 A STUDY OF ANTIULCER ACTIVITY OF CRYOCONSERVED PLACENTA EXTRACT ON THE MODEL OF ALCOHOL /**

## PREDISOLONE-INDUCED STOMACH LESIONS

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Search the new approaches to the treatment of peptic ulcer disease is an urgent problem of modern medicine. One of the potential antiulcer agents is cryopreserved placenta extract. The study was conducted on 28 male rats weighing 200–220 grams. After 24 hours of fasting, rats were administered intragastrically with prednisolone (20 mg/kg) dissolved in 80.0% ethyl alcohol (0.6 ml/100 grams of animal body weight). Cryopreserved placenta extract was administered intramuscularly at a dose of 0.16 ml/kg body weight in the prophylactic mode – once a day for 5 days before the introduction of alcohol-prednisolone mixture. 24 hours after administration of the alcohol-prednisolone mixture, rats were removed from the experiment and macroscopically assessed the condition of the gastric mucosa according to the following criteria: bloating, edema, redness, hemorrhage and folding disorders. For each group, the percentage of experimental animals was calculated according to the specified characteristics and the average value of their expression, which was evaluated on a scale: 0–3 points. The study showed that in 100.0% of control rats (model pathology without treatment) marked (3 [3; 3] points) hyperemia of the gastric mucosa ( $p < 0,05$ ). In addition, the presence of hemorrhage, edema and folding disorders caused by the

introduction of alcohol-prednisolone mixture was noted. Prophylactic five-day administration of cryopreserved placenta extract before the introduction of ulcerogenic mixture led to a statistically significant ( $p < 0.05$ ) decrease in the severity of damage to the gastric mucosa in rats. Thus, hyperemia, hemorrhage and mild edema of the gastric mucosa were observed in only 28.6% of rats. The obtained data indicate the ability of cryopreserved placenta extract in the prophylactic mode of administration to increase the endurance of the gastric mucosa to the action of alcohol-prednisolone mixture.

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## P82 CRYSTALLIZATION IN SERUM CONTAINING AND SERUM-FREE MEDIA BASED ON DEXTRAN

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Hezavehei, Maryam: S90  
Higashiya, Misako: S111  
Higgins, Adam: S110, P25  
Hintz, Mikaela: S124  
Hladkykh, Fedir: P81  
Holt, Andrew: S130  
Holt, Stephen: S125  
Höltje, Kai: S143  
Honparkhe, Mrigank: P37, P38  
Hossen, Shaharior: P8  
Huang, Junzhuo: S57  
Hubel, Allison: S1, S139  
Hubenia, Oleksandra: S61  
Hunt, Charles J.: S6, S32

## I

Iaizzo, Paul: S68  
Ibrahim, Sahar Muhammad: S55  
Idczak, Paulina A.: S120  
Idiyatullin, Djaudat: S68  
Iefimova, Inesa: P74  
Inbar, Ehud: S109  
Isiksacan, Ziya: S131  
Ivchenko, Tetiana: P53

## J

James, Eric: S109  
Jandová, Miroslava: S60  
Jaskiewicz, Justyna J.: S134, S150  
Jennings, Jack: S70  
Jennings, Randy: P15  
Jeziarski, Anna: S57  
Jhamb, Dinesh: P39  
Jijo, Ameya: P28  
Joo, Myeong-Don: P23  
Joshi, Amey S.: S153  
Joshi, Mary-Beth: S133  
Joshi, Purva: S68  
Jovic, Katarina: S106  
Juan de Paz, Leonardo: S9  
Julien, Allison R.: S86, P15  
Juneja, Rohit: P39

## K

Kade, Andreas: S35  
Kadnikova, Nataliya: P66  
Kalthur, Guruprasad: P28  
Kanbar, Marc: S25  
Karlsson, Jens: S62  
Kashyap, Prakriti: S118

Kašpar, Vojtěch: S101  
Kato, Yusuke: P52  
Kaushal, Richa: P7  
Kawabe, Toshiaki: S111  
Kawai, Kiyoshi: S48  
Kawai, Kosei: P43  
Kazemi, Mohammad: P32  
Keller, Jakob: S117  
Kelley, Dior: P17  
Kelly, Daniel: S108  
Kendon, Jonathan: S30  
Kenny, David A.: S89  
Kersten, Gideon: P18  
Khalaf, Israa: P36  
Khan, Muhammad Shuaib: S55  
Khattak, Hajra: S26, P19  
Khayyat, Daa: S91  
Kho, Kang Hee: P8  
Khoshbin, Zahra: P57, P58  
Khosla, Kanav: S153, S154  
Khosronezhad, Nahid: S90  
Khytryi, Andrii: P75  
Kihika, Joseph K.: S121  
Kilbride, Peter: S21, S92, S93  
Kim, Haeng-Hoon: P71  
Kim, Seung K.: S141  
Kinney, Nina L. H.: S18  
Kiroshka, Viktoriia: P9  
Klapproth, André: S54  
Klbik, Ivan: P29  
Ko, Jong-Hyuk: P23  
Kobylenska, Maryna: P91  
Kodandaramaiah, Suhasa B.: S153  
Kompaniets, Antonina: P89, P90  
Kong, Il-Keun: P23  
Kopechek, Jonathan: P93  
Korpan, Nikolai: S158  
Koshurba, Illia: P81  
Kouba, Andy J.: S86, P12, P14, P15  
Kouba, Carrie K.: S86, P12, P14  
Koutzoumis, Dimitri: S109  
Kovacic, Borut: P28  
Kovalenko, Galyna: P53  
Kovalenko, Igor: S14, P54, P64  
Kovalov, Gennadiy: P74, P76  
Kovtun, Svitlana: P72  
Kozachuk, Yelyzaveta: P73  
Kreckel, Heidi D.: S46  
Kreir, Mohamed: P10  
Kretschmer, René: S35



PROGRAM

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<b>P60</b> NOVEL CRYOPRESERVATION TECHNOLOGY FOR AUSTRALIAN MACADAMIA	Xueying Li
<b>P61</b> COMPOSITION AND BIOLOGICAL ACTIVITY OF CRYOEXTRACTS FROM FETOPLACENTAL TISSUES UNDER DIFFERENT PREPARATION CONDITIONS	Nikolay Repin
<b>P62</b> BIOPOLYMER GELS FOR VITRIFICATION OF SEMINIFEROUS TUBULES	Natalia Volkova
<b>P63</b> CRYOPRESERVED MULTIPOWENT MESENCHYMAL STROMAL CELLS FOR CORRECTION OF ADJUVANT ARTHRITIS	Mariia Yukhta
<b>P64</b> TEMPERATURE DEPENDENCE OF ERYTHROCYTE OSMOTIC RESPONSE TO AN ARTIFICIAL HYPOBIOSIS STATE OF HOMIOOTHERMAL AND HETEROOTHERMAL MAMMALS	Svetlana Repina
<b>P65</b> MASTERING THE ASSESSMENT OF FUNCTIONAL ACTIVITY OF CRYOPRESERVED CELLS	Natalia Babenko
<b>P66</b> DOES SALT-COLD STRESS INCREASE LIPID PRODUCTION IN CHLOROCOCCUM DISSECTUM AND DUNALIELLA SALINA MICROALGAE CELLS?	Krystyna Vozovyk
<b>P67</b> CRYOPRESERVATION CAN RESTORE THE FUNCTIONAL STATUS OF BONE MARROW CELLS IN ANIMALS WITH ADJUVANT ARTHRITIS	Yuliia Haievska
<b>P68</b> THE ROLE OF CRYOPRESERVATION IN THE ACTIVATION OF TOLEROGENIC ACTIVITY OF DENDRITIC CELLS	Hanna Kysielova
<b>P69</b> MORPHOLOGY AND ULTRASTRUCTURE OF HUMAN OLIGOASTHENOTERATOZOOSPERMIC SPERMATOOA AFTER FREEZE-THAWING WITH GLYCEROL OR PVP	Olena Pavlovich
<b>P70</b> CRYONANOTECHNOLOGIES AS A NEW APPROACH TO IMPROVE ONCOPATOLOGY TREATMENT EFFICIENCY	Anatoliy Goltsev
<b>P71</b> CRYOPRESERVATION OF <i>Pogostemon yatabeanus</i> SHOOT TIPS USING A DROPLET-VITRIFICATION PROCEDURE: IMPORTANCE OF AMMONIUM-FREE MEDIUM FOR REGENERATION	Hyoeun Lee
<b>P72</b> VIABILITY OF DECONSERVED BOAR SPERM DURING PREPARATION FOR FERTILIZATION	Oksana Lyzohub
<b>P73</b> POTENTIATION OF CRYOGENIC DESTRUCTIVE EFFECT ON BIOLOGICAL TISSUES: AN EXPERIMENTAL STUDY	Yelyzaveta Kozachuk
<b>P74</b> COLD AS A STRESSOR AND TISSUE DAMAGE AGENT	Gennadiy Kovalov
<b>P75</b> SOME FEATURES OF AUTONOMIC REGULATION IN ANTARCTIC WINTERERS	Dmytro Lutsenko
<b>P76</b> ADIPOCYTES IN WOUND GRANULATION TISSUE AFTER SKIN CRYOABLATION	Mykhailo Myroshnychenko
<b>P77</b> THE PREPARATION OF SUBCOOLED LIQUID ARGON	Mingsheng Li
<b>P78</b> PROCYANIDINS SUPPLEMENTED SOYBEAN LECITHIN-BASED EXTENDERS IMPROVE POST-THAW QUALITY OF GOAT SPERMATOOA	Lingwei Sun
<b>P79</b> CONSERVING YACON ( <i>SMALLANTHUS SONCHIFOLIUS</i> ) THROUGH CRYOPRESERVATION USING THE PVS2 DROPLET VITRIFICATION METHOD	Stacy Denise Hammond
<b>P80</b> CRYOBIOLOGICAL PRESERVATION OF INFLUENZA A VIRUSES IN NATURE: FEASIBILITY AND IMPLICATIONS	Dany Shoham
<b>P81</b> A STUDY OF ANTIULCER ACTIVITY OF CRYOCONSERVED PLACENTA EXTRACT ON THE MODEL OF ALCOHOL / PREDISOLONE-INDUCED STOMACH LESIONS	Illia Koshurba
<b>P82</b> CRYSTALLIZATION IN SERUM CONTAINING AND SERUM-FREE MEDIA BASED ON DEXTRAN	Oleksandr Pakhomov