

# key word index

## problems of cryobiology, volume 22 (2012)

$\alpha$ -1-inhibitor of proteases 49

2-acetylaminofluorene 88

2D culture 144, 148, 153, 157, 161, 165, 177

3D carrier 144, 177, 182

3D culture 144, 177

### a

activation energy 389

activity of proteases 49

adipogenic differentiation 118, 144, 148, 157, 165, 177

adipose tissue

*of human* 148

*of mice* 161

adrenal gland 30, 79

adrenocorticotocytes 30

adult donor blood nucleated cells 453

agarose 144

aggregates, *multicellular* 423

ageing 107

alginate microbeads 14, 88, 144, 177

allocytotoxic responses 468

allogeneic fetal neural progenitor cells 468

alginate 144, 177

antibodies to neurospecific proteins 468

antibiotic sensitivity 462

anti-tumor efficiency 484

aorta endothelium 173

apoptosis 169

atherosclerosis, *experimental* 133

atherosclerotic impairments, *correction of* 133

### b

bacteria *Escherichia coli* 462

biotope 462

blood brain barrier 107

blood

*cord/adult donor, nucleated cells* 453

*cord*

*low-molecular fraction* 71

*placental, human, serum of* 133

### c

carbon catalytic deposits 144

cardiac valve 169

cardiovascular prostheses 169

cell free matrix 169, 173

cell(s)

*adrenal* 30, 79

*chorion* 118

*fetal neural* 39, 468

cell(s)

*mesenchymal stromal* 14, 118, 144, 148, 153, 157,

  177

*neural, of newborn rats* 423

*nucleated, of cord/adult donor blood* 453

*of newborn rats* 423

*of fetal liver, cryopreserved* 88

*stem* 39, 161, 165

*stromal* 14, 118, 144, 148, 153, 157, 177

chitosan 182

chondrocytes, cultured 148

chondrogenic differentiation 118, 144, 148

coefficients of permeability, *methods for assessment* 389

cold

*exposures*

*rhythmic* 3, 49

*long-term* 3

*wound* 97

cooling rates 30, 39

cord blood

*low-molecular fraction of* 71

*nucleated cells* 453

*serum* 133

correction of atherosclerotic impairments 133

craniocerebral hypothermia 398

cryoablation 484

cryodestruction 484

cryohemolysis, *hypertonic* 126

cryopreservation

*of adrenal cells* 30, 79

*of bacteria Escherichia coli* 462

*of chorion cells* 118

*of fetal neural cells* 39

*of mesenchymal stromal cells* 118

*of neutrophils* 71

*of probiotics* 21

*of placenta [cells]* 157

cryopreserved

*fetal liver cells* 88

*placenta, human*

cryoprotectant(s) 126, 389, 410, 433

*multicomponent solution* 14

*step-wise exposure* 14

cryotherapy 107

crystallization, *eutectic* 410

culture 118, 144, 148, 153, 157, 161, 165, 177, 423

*3D* 144, 177

*of chondrocytes* 148

*of chorion cells* 118

*of neural cells* 423

*of stromal cells* 144, 148, 153, 157, 177

culture

*of umbilical cord matrix cells* 153  
cyclosporine A (Sandimmun) 468

## d

DMAc 71  
DMSO 14, 21, 30, 39, 79, 88, 118, 462  
decellularization 169  
deformation, *thermoplastic* 410  
devitalization of vascular scaffolds 173  
diffusion of cryoprotectants 433  
dimethyl  
  acetamide 71  
  sulfoxide 14, 21, 30, 39, 79, 88, 118, 462

## e

electrolyte 61  
empirical polynomial equations 433  
endothelium of aorta 173  
energy of activation 389  
enterosorbents, immobilization on 21  
equations, *empirical polynomial* 433  
erythrocyte(s) 126, 389, 398  
  *forms of* 398  
  *osmotic fragility* 398  
*Escherichia coli* 462  
ethylene glycol 14  
eutectic crystallization (melting) 410  
extract  
  *of skin* 97  
  *of spleen* 97  
expansion of cryoprotectants, *thermal* 433  
experimental  
  *atherosclerosis* 133  
  *tumors* 484

## f

fetal cells  
  *neural* 39, 468  
  *of liver, cryopreserved* 88  
fluidity limit 410  
fractal morphometry 107  
fraction of cord blood, low-molecular 71  
fragility, *osmotic* 398

## g

glycerol 389

## h

hemolysis 398  
  *hypertonic* 126  
hepatectomy, *partial* 88  
hormones, *thyroid* 3

human

*adipose tissue* 148  
  *erythrocytes* 126, 389  
  *placenta* 157  
  *placental blood, serum of* 133  
hyperthermia, *microwave* 484  
hypertonic cryohemolysis 126  
hypothermy  
  *craniocerebral* 398  
  *immersion* 398  
  *whole body (general)* 398  
hypothermic storage  
  *of neonatal ovarian tissue* 61  
  *of neural cells* 423

## i

immersion hypothermia 398  
immobilization on enterosorbents 21  
intraperitoneal introduction 468  
intracerebral introduction 468  
intervertebral disks 148

## l

leukocytes 97  
lipoptoteins, *high density* 133  
liver  
  *cells, cryopreserved fetal* 88  
  *failure* 88  
low-molecular fraction of cord blood 71

## m

Me<sub>2</sub>SO 14, 21, 30, 39, 79, 88, 118, 462  
macroporous scaffold 88  
microwave hyperthermia 484  
medium, *rehabilitating* 71  
melting, *eutectic* 410  
methods for assessment of permeability coefficients 389  
mesenchymal stromal cells 14, 144, 148, 153, 157, 177  
modifiers of protein sulphydryl groups  
morphological structure  
  *of neonatal ovarian tissue* 61  
morphometry, *fractal*  
multicellular aggregates 423  
mice  
  *adipose tissue* 161  
  *newborn, adrenal gland cells of* 79  
multicomponent cryoprotective solution 14

## n

neonatal ovarian tissue 61  
neural cells  
  *of newborn rats* 423  
  *fetal* 39, 468  
neurospecific proteins, *antibodies to* 468  
neutrophils 71

nucleated cells of cord/adult donor blood 453

## **o**

osmotic fragility 398

osteocomductive materials 144

osteogenic differentiation 144, 148, 157, 161, 165

ovarian tissue, *neonatal* 61

## **p**

polypeptides of low-molecular weight 3

permeability coefficients, *methods for assessment* 389

placenta, *human* 157

placental blood, *human, serum* of 133

plasmids 462

probiotics 21

progenitor cells, *allogeneic fetal neural* 468

propane diol 14

prostheses, *biological vascular* 173

protein sulfhydryl groups, *modifiers of* 126

proteins, *neurospecific, antibodies to* 468

protease

*activity of* 49

$\alpha$ -*I-inhibitor of* 49

## **r**

rabbits 133

rate of cooling 30, 39

rats(s) 3, 49

*newborn, neural cells of* 423

recrystallization 410

rehabilitating medium 71

rhythmic cold exposures 49

## **s**

Sandimmun (cyclosporine A) 468

scaffolds

*macroporous* 88

*vascular* 173

serum of human cord (placental) blood

skin extract 97

step-wise exposure in cryoprotectants 14

storage, *hypothermic*

*of neonatal ovarian tissue* 61

*of neural cells* 423

spleen extract 97

stem cells 39

stromal cells 14, 144, 148, 153, 157, 177

sulfhydryl groups, proteins, modifiers of 126

## **t**

thermal expansion of cryoprotectants 433

thermoplastic deformation 410

thyroid hormones 3

tissue

*adipose*

*human* 148

*mice* 161

*neonatal ovarian* 61

transplantation of vessels 173

tumors, *experimental* 484

## **u**

ultrastructure 453

umbilical cord matrix cells 153

## **v**

vascular

*biological prostheses* 173

*scaffolds* 173

vitrification 14

## **w**

whole body hypothermy 398

## **x**

xenogeneic arteries 173

xenotransplantation 173