

# CATALOGUE

## REPUBLICAN DNA BANK OF A HUMAN, ANIMALS, PLANTS AND MICROORGANISMS

I. DNA BANK OF A HUMAN	
1	<b>Collection of DNA samples from the patients with multifactorial diseases</b>
	✚ DNA and biological material samples of patients with oncological diseases (bladder cancer; lung cancer and benign tumors; ovarian cancer and benign tumors; metastatic prostate cancer). Control samples for lung cancer, bladder cancer, ovarian cancer (DNA from peripheral blood of patients without oncopathology, including benign ovarian tumors and uterine fibroids)
	✚ DNA and biological material samples from patients with bronchial asthma
	✚ DNA and biological material samples of patients with cardiovascular pathologies (with cardiomyopathies and of their relatives; with hypotension; myocardial infarction; pulmonary embolism; atrial fibrillation; phlebothrombosis)
	✚ DNA samples of patients with metabolic syndrome, with diabetes mellitus
	✚ DNA samples of patients with sensorineural hearing loss
	✚ DNA samples of patients with osteoporosis
	✚ DNA and biological material samples of adult patients with autoimmune diseases (rheumatoid arthritis; systemic sclerosis; adult controls; systemic lupus erythematosus; systemic lupus erythematosus and lupus nephritis)
	✚ DNA and biological material samples of patients with juvenile autoimmune diseases (juvenile rheumatoid diseases with and without an autoimmune component; control samples without pathology; Kawasaki syndrome; juvenile spondyloarthritis; juvenile scleroderma; hemorrhagic vasculitis; systemic lupus erythematosus; psoriatic arthritis)
✚ DNA samples of extremely premature infants with pathologies and mature infants	

2	<b>Collection of DNA samples of local inhabitants of ethnogeographic regions of Belarus</b>
	✚ Central Region
	✚ Eastern Region (Podneproviye)
	✚ Western Region (Ponemanye)
	✚ Western Polesie
	✚ Eastern Polesie
	✚ Northern Region (Podvinye)
3	<b>Collection of DNA samples and biological material of healthy donors</b>
	✚ DNA and biological material samples of top-qualification athletes
	✚ DNA and venous blood samples of individuals living in the territory of the Republic of Belarus: persons of Belarusian nationality (men), persons of Libyan nationality (men)
	✚ DNA collection of individuals of various age groups living in the territory of the Republic of Belarus (DNA from venous blood and buccal epithelium of individuals of three age groups: 20-40 years old; 40-60 years old; over 60 years old; DNA of the sperm of individuals of three age groups: 20-30 years old, 30-40 years old, over 40 years old)
4	<b>Collection of biological material (sperm)</b>
	✚ Sperm samples of patients with reproductive disorders (diagnoses: normospermia, oligospermia, oligoasthenospermia, asthenospermia, azoospermia, normoospermia + leukocytospermia, and without establishing a diagnosis). Control samples for reproductive disorders

## II. DNA BANK OF ANIMALS

<b>1</b>	<b>Collection of DNA samples of agricultural animals</b>
	<ul style="list-style-type: none"> <li>✚ DNA and biological material samples of cattle breeds: Holstein, Black-and-White, Auliekol, Kazakh Whiteheaded, Limousin, and Aberdeen Angus</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Biological material samples of meat breeds of domestic pig (<i>Sus domesticus</i> Erxleben)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ DNA and biological material samples of the Poleskaya horse (<i>Eguus</i> L.) and the Belarusian harness horse</li> </ul>
<b>2</b>	<b>Collection of DNA samples of wild animals</b>
	<ul style="list-style-type: none"> <li>✚ Biological material samples of the European bison (<i>Bison bonasus</i> L.)</li> </ul>
<b>3</b>	<b>Collection of DNA aquaculture fish samples</b>
	<ul style="list-style-type: none"> <li>✚ Common carp DNA and biological material samples (<i>Cyprinus carpio</i> L.)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Rainbow trout biological material samples (<i>Oncorhynchus mykiss</i> Wal.)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Sterlet DNA and biological material samples (<i>Acipenser ruthenus</i> L.)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Biological material samples of common perch (redfin perch, big-scaled redfin, English perch, Euro perch, Eurasian perch, Eurasian river perch) (<i>Perca fluviatilis</i> L.)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ DNA and biological material samples of the silver carp (<i>Hypophthalmichthys molitrix</i> Val.) and the bighead carp (<i>Hypophthalmichthys nobilis</i> Rich.)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Grass carp DNA and biological material samples (<i>Ctenopharyngodon idella</i> Val.)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Atlantic sturgeon DNA and biological material samples (<i>Acipenser oxyrinchus</i> Mitchill)</li> </ul>
	<ul style="list-style-type: none"> <li>✚ Beluga sturgeon DNA and biological material samples (<i>Huso huso</i> L.)</li> </ul>
<b>4</b>	<b>Collection of DNA samples of alien hydrobionts</b>
	<ul style="list-style-type: none"> <li>✚ Alien fish DNA and biological material samples: <i>Neogobius fluviatilis</i> Pallas, <i>Proterorhinus marmoratus</i> Pallas, <i>Neogobius gymnotrachelus</i> Kessler, <i>Benthophilus stellatus</i> Sauvage</li> </ul>
<b>5</b>	<b>Collection of DNA samples of aquatic invertebrates</b>
	<ul style="list-style-type: none"> <li>✚ Broad-fingered crayfish DNA and biological material samples (<i>Astacus leptodactylus</i> Esch.)</li> </ul>

	<p>✚ DNA and biological material samples of alien Crustaceans: <i>Chelicorophium curvispinum</i> Sars, <i>Ch. Robustum</i> Sars, <i>Dikerogammarus haemobaphes</i> Eichwald, <i>D. villosus</i> Sowinsky, <i>Echinogammarus ischnus</i> Stebbing, <i>E.trichiatus</i> Martynov, <i>Pontogammarus robustoides</i> Sars, <i>Obesogammarus crassus</i> Sars, <i>O. obesus</i> Sars, <i>Paramysis lacustris</i> Czerniavsky, <i>Limnomysis benedeni</i> Czerniavsky, <i>Gammarus varsoviensis</i> Jazdzewski</p> <p>✚ DNA samples of freshwater molluscs. Gastropods: the great pond snail (<i>Lymnaea stagnalis</i> L.), the great ramshorn (<i>Coretus corneus</i> L.), the marsh pond snail (<i>Lymnaea corvus</i> Gmelin); bivalvia: the swan mussel (<i>Anodonta</i> sp.), the zebra mussel (<i>Dreissena polymorpha</i> Pallas)</p>
<b>6</b>	<p><b>Collection of DNA samples of terrestrial invertebrates</b></p> <p>✚ DNA and biological material samples of insect representatives:  the order <i>Hemiptera</i>, the family <i>Aphididae</i> (<i>Насекомые тли</i>): <i>Aphis pomi</i> Patch., <i>Aphis craccivora</i> Koch., <i>Aphis spiraeicola</i> Patch. <i>Aphis gossypii</i> Glov., <i>Aphis fabae</i> Scop., <i>Appendiseta robiniae</i> Gill. <i>Aphis intybi</i> Koch., <i>Brachycaudus divaricatae</i> Shap., <i>Hyadaphis tataricae</i> Aizenberg, <i>Hyalopterus pruni</i> Geoffroy  <i>Macrosiphoniella sanbomi</i>, <i>Macrosiphum gei</i> Koch., <i>Macrosiphum rosae</i> L., <i>Myzus persicae</i> Sulz. <i>Myzus cerasi</i> Fab., <i>Uroleucon cichorii</i> Koch  the order <i>Diptera</i> (two-winged insects), the family <i>Cecidomyiidae</i> (gall midges): <i>Resseliella theobaldi</i> Barnes, <i>Obolodiplosis robiniae</i> Haldeman, <i>Iteomyia capreae</i> Winnertz, <i>Dasineura mali</i> Kieffer.  the order <i>Lepidoptera</i> (lepidopterous), the family <i>Gracillariidae</i> (blotch leafminers): <i>Cameraria ohridella</i> Deschka &amp; Dimic, <i>Phyllonorycter issikii</i> Kumata</p> <p>✚ Biological material samples of the Colorado potato beetle (<i>Leptinotarsa decemlineata</i> Say)</p> <p>✚ Honey bee DNA samples (<i>Apis mellifera</i> L.)</p>
<b>7</b>	<p><b>Collection of DNA samples of rare and endangered species</b></p> <p>✚ Insect DNA samples of the order <i>Lepidoptera</i> (<i>Lepidoptera</i>): <i>Plusia zosimi</i> Hub., <i>Chariaspilates Formosaria</i> Ever., tiger moth <i>Pericallia matronula</i> L., the violet copper <i>Lucaena helle</i> Den. et Schif.</p> <p>✚ Insect DNA samples of the order <i>Coleoptera</i> (beetles): hermit beetle <i>Osmoderma barnabita</i> Scop., <i>Potaetia</i> (<i>Liocola</i>) <i>marmorata</i> Fab., <i>Potaetia fieberi</i> Kraatz., <i>Potaetia</i> (<i>Potosia</i>) <i>aeruginosa</i> Drury, <i>Carabus intricatus</i> L.</p>

### III. DNA BANK OF PLANTS

<b>1</b>	<p><b>Collection of DNA samples of grain crops</b></p> <ul style="list-style-type: none"> <li>✚ Wheat DNA and biological material samples (<i>Triticum aestivum</i> L.) (common wheat varieties and lines; introgression lines of soft wheat)</li> <li>✚ Rye DNA and biological material samples (<i>Secale cereal</i> L.) (diploid and tetraploid winter rye)</li> <li>✚ Triticale DNA and biological material samples (<math>\times</math><i>Triticosecale</i> Wittm. A.Camus) (varieties, recombinant forms, doubled haploids of hexaploid triticale, winter and spring forms, hexaploid Secalotriticum)</li> <li>✚ Common oat DNA samples (<i>Avena sativa</i> L.) and sterile oat (animated oat, wild oat, wild red oat, winter wild oat) (<i>Avena sterilis</i> L.) (varieties)</li> <li>✚ Barley DNA samples (<i>Hordeum vulgare</i> L.) (varieties)</li> <li>✚ Maize DNA and biological material samples (<i>Zea mays</i> L.) (varieties)</li> </ul>
<b>2</b>	<p><b>Collection of DNA samples of leguminous crops</b></p> <ul style="list-style-type: none"> <li>✚ Soya DNA samples (<i>Glycine max</i> (L.) Merr.) (varieties, variety samples)</li> </ul>
<b>3</b>	<p><b>Collection of potato DNA samples</b></p> <ul style="list-style-type: none"> <li>✚ Potato DNA samples (<i>Solanum tuberosum</i> L.) (varieties, diploid forms, hybrids, lines, interspecies hybrids)</li> <li>✚ Wild potato species DNA (<i>Solanum pinnatisectum</i>, <i>S.bulbocastanum</i>, <i>S.stoloniferum</i>)</li> </ul>
<b>4</b>	<p><b>Collection of DNA samples of industrial crops</b></p> <ul style="list-style-type: none"> <li>✚ Oil flax DNA and biological material samples (<i>Linum usitatissimum</i> L.) (breeding samples)</li> <li>✚ Fiber flax DNA and biological material samples (<i>Linum usitatissimum</i> L.) (varieties, self-cloning forms, Belarusian old varieties, hybrids)</li> <li>✚ Rape DNA and biological material samples (<i>Brassica napus</i> L. var. <i>oleifera</i> DC) (variety samples, hybrid lines, spring and winter rape forms)</li> <li>✚ DNA and biological material samples of blue lupin (narrow-leaved lupin, narrow-leaf lupin) (<i>Lupinus angustifolius</i> L.), yellow lupin (<i>Lupinus luteus</i> L.), white lupin (<i>Lupinus albus</i> L.) (varieties, hybrids, breeding forms)</li> </ul>

	✚ Sugar beetroot DNA and biological material samples ( <i>Beta vulgaris</i> L.) (diploid hybrids)
5	<b>Collection of DNA samples of vegetable crops</b>
	✚ DNA and biological material samples of tomato ( <i>Solanum lycopersicum</i> L.), cherry tomato ( <i>Solanum lycopersicum</i> var. <i>cerasiforme</i> ) (varieties)
	✚ Pepper DNA and biological material samples ( <i>Capsicum annuum</i> L., <i>C. Baccatum</i> L., <i>C. chacoence</i> Hunz., <i>C. chinense</i> Jacq, <i>C. frutescens</i> L.), varieties
	✚ DNA and biological material samples of eggplant ( <i>Solanum melongena</i> L.), physalis ( <i>Physalis</i> sp.) (varieties)
	✚ White cabbage DNA and biological material samples ( <i>Brassica oleraceae</i> L) (breeding samples)
6	<b>Collection of DNA samples of berry crops</b>
	✚ Garden strawberry DNA samples ( <i>Fragaria × ananassa</i> ) (varieties)
	✚ Blackberry DNA samples ( <i>Ribes nigrum</i> ) (varieties)
7	<b>Collection of DNA samples of wild plants</b>
	✚ Hogweed DNA samples ( <i>Heracleum</i> sp.)
8	<b>Collection of DNA samples of rare and endangered plant species</b>
	✚ DNA and biological material samples of rare and endangered plants growing in the protected areas of the Republic of Belarus
	✚ Rare and endangered plant samples growing in the territory of the National Park “Narochansky”
	✚ Rare and endangered plant samples growing in the territory of Brest Region and the National Park “Belovezhskaya Pushcha”
	✚ Rare and endangered plant samples growing in the territory of Gomel and Minsk Regions
	✚ Rare plant species growing in the territory of the National Park “Braslav Lakes”
9	<b>Collection of mushroom DNA samples</b>
	✚ DNA and biological material (mycelium) samples of the phytopathogenic fungus <i>Mycosphaerella graminicola</i>
	✚ DNA samples of the phytopathogenic fungus <i>Rhizoctonia</i> sp.
	✚ Wild macromycetes: <i>Boletus</i> sp., <i>Aureoboletus</i> sp., <i>Tricholoma</i> sp., <i>Leccinum</i> sp., <i>Sparassis</i> sp.; micromycetes: <i>Neofabraea</i> sp., <i>Erysiphales</i> sp.

## IV DNA BANK OF MICROORGANISMS

1	<b>Collection of DNA samples of lactic acid bacteria strains</b>
	✚ DNA bacteria samples of the genus <i>Lactobacillus</i> , <i>Propionibacterium</i> , <i>Bifidobacterium</i> , <i>Streptococcus</i> , <i>Lactococcus</i> , <i>Pediococcus</i> , <i>Enterococcus</i>
	✚ Bacteriophage samples of lactic acid bacteria <i>Lactococcus lactis</i>
2	<b>Collection of DNA samples of soil cyanobacteria strains</b>
	✚ Bacteria DNA samples of the genus <i>Bacillus</i> , <i>Herbaspirillum</i> , <i>Rhodococcus</i> , <i>Pseudomonas</i> , <i>Brevibacillus</i> , <i>Rhizobium</i> , <i>Arthrobacter</i> , <i>Cryptococcus</i>
	✚ Rhizosphere bacteria DNA samples of the genus <i>Bacillus</i>
	✚ DNA samples of entomopathogenic bacteria strains of the genus <i>Bacillus</i>
	✚ Cyanobacteria DNA samples of the genus <i>Microcystis</i>