Oleksii Shevchenko

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Bilateral Meetings

- Thursday (1:30pm - 6:00pm)
- Friday (9:00am - 12:00pm)
- Friday (12:00pm - 4:00pm)

Description
Taras Shevchenko National University of Kyiv is today a classic university with a distinct research profile, and the leading contemporary academic and educational hub of Ukraine. With the independent Ukrainian nation arising, the University is facing new challenges and responsibilities
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University,
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Kyiv, 60 Volodymyrska Str Google map
Offer

Environmentally friendly and cost-effective technology for extraction of rutin from vegetative mass

Rutin, or vitamin P, is a valuable natural biologically active antioxidant compound widely used in pharmaceuticals for treating infectious and cardiovascular diseases (including strokes and heart attacks), liver and cholecyst disorders, stomach and duodenum ulcers, atherosclerosis, rheumatism, tumors, etc. Natural rutin is commonly extracted from fruits of Sophora japonica plant limited mostly to East Asia and rarely cultivated in other regions of the world. We propose a unique cost-effective technology for extraction of rutin from the vegetative mass of buckwheat (widely used groats crop) which remains after harvesting as an agricultural waste. Extracted high-quality rutin meets strict pharmacological standards. The technology is ecologically safe and provides high output of rutin reaching 34 kg/ha with expected economic efficiency of approx. USD 3000/ha. Additional benefits include: i) agricultural waste utilization, ii) use of production waste as environmentally friendly mineral fertilizers, iii) possible adoption of the technology for extraction of flavonoids from other plants, iv) diversification of commercial activity, and v) a ‘green note’ to any business.

Cooperation Offered

1. Outsourcing co-operation
2. Technical co-operation

Cooperation Requested

1. Investment/Financing

Offer

Universal device for multiple intracranial manipulations in biomedicine.

Animal models of brain diseases (such as Parkinson's disease, drain tumours, stroke etc.) involve the use of multiple intracranial manipulations. Routinely such manipulations are performed by multiple punctures of the skull associated with the risk of inflammatory processes. Each subsequent manipulation requires the use of a different device, which increases the overall cost of diagnostic and/or therapeutic procedures since majority of existing cannula and catheters for intracranial manipulations are disposable. We have developed universal device for multiple intracranial manipulations, the use of which does not require repeated punctures of the skull. All components of the device are made of non-toxic metal and may be heat-sterilizied, which allows their prolonged/repeated use and thus reduces the overall cost of medical manipulations. The device includes a) a metal cannula which is easily fixed permanently in the rat cranium. By design, this universal cannula allows to perform intracranial drug injections, biopsy, tumour cell transplantation as well as monitoring of brain physiological indices; b) a cutter with a limiter for making a coordinated hole without damaging the dura mater; c) a highly sensitive temperature sensor. This device can be used for preclinical studies in the neurosurgery, neurophysiology and neurooncology as well as in veterinary medicine. Furthermore, the existing apparatus may be used for development of analogs for clinical use. We are looking for technical partners for the further development and adaptation of the device for new applications, as well as for the investments required to bring the device into the market.

Cooperation Offered

1. Outsourcing co-operation
2. Technical co-operation

Cooperation Requested

1. Technical co-operation
2. Investment/Financing

Offer

Design of diagnostic kits for plant viruses

Timely diagnostics is the only reliable proactive mean of reducing crop damages resulting from viral infections. We have rich experience in diagnostics of viruses infecting many important crops as well as in monitoring of plant viral diseases in Ukraine. Additionally, we collected a wide panel of viruses, and are proficient in generating virus-specific

antiserum/primer design necessary for the development of ELISA- and PCR-based diagnostic kits for viruses endangering commercial production in agri-, horti- and floriculture. According to our calculations, such diagnostic kits may be 2-3 times cheaper when produced in Ukraine, comparing to marketed analogues. Additionally, positive trends in the volume of the domestic market of agricultural production and consciousness of major market players favor the proposal. We are looking for technical partners for the further development of the kits as well as for the investments required to bring them into the market.

Cooperation Offered

1. Outsourcing co-operation
2. Technical co-operation

Cooperation Requested

1. Technical co-operation
2. Investment/Financing

Offer

Biological protection of plants against bacterial diseases using viruses of bacteria

Bacterial diseases of many plants are a major cause of yield losses. Legal and functional limitations of transgenic crops coupled with prohibition of antibiotics' use call for other means of disease control. We have 20 years of experience of dealing with viruses (phages) of plant bacteria infecting many important crops, collected a wide panel of active virus isolates, and have developed pilot virus preparations active against certain strains of Erwinia and Pseudomonas endangering commercial production in agri-, horti- and floriculture. The developed technology may also be adopted for generating virus-based preparations virtually against any bacterial disease of plants. Such preparations are intrinsically highly specific, environmentally friendly and biologically safe. In addition, they may further be formulated for controlling bacterial diseases in open field conditions, glasshouses, fruit/vegetable storing facilities, etc. We are looking for technical partners for further development and adaptation of the preps/technology, as well as for the investments required to bring the virus preparations into the market.

Cooperation Offered

1. Outsourcing co-operation
2. Technical co-operation

Cooperation Requested

1. Technical co-operation
2. Investment/Financing

Offer

Natural effectors of hemostasis system, purified from the different biological sources

We have developed technologies and produced biologically active pharmacological agents for diagnosis and treatment of various cardiovascular pathologies associated with functional defects of the hemostatic system. Purified protein preparations include: Fibrinolytic/fibrinogenolytic enzyme (analogues: Brevinase, Lebetase), Phospholipase A2, Plateled aggregation inhibitor, Protein C activator (analogue: Protac), Ancistron (Thrombin-like enzyme) (analogues: Ancrod, Crotalasa, Ancistron H, Batroxobin), L-amino-acid oxidase from the venom of Agkistrodon snake; thrombin-like enzyme (analogues: Ancrod, Crotalasa, Ancistron H, Batroxobin), Fibrinolytic/fibrinogenolytic enzyme (analogues: Brevinase, Lebetase) from the mucus of certain types of frogs; and fibrinolytic/fibrinogenolytic enzyme (analogues: Brevinase, Lebetase) from the Antarctic marine organisms. All extracted proteins were analyzed following the approved methods using both in vitro and in vivo model systems, and have been confirmed as 96-98 % pure and effective in human and bovine plasma. According to their quality characteristics, these proteins are identical to similar registered substances. The technology that was initially developed for protein extraction from the venom of Agkistrodon snakes has been also shown efficient for extraction of relevant proteins from the mucus of frogs and from the Antarctic marine organisms, and hence may be further adopted for a range of other organisms. Additional benefits include parallel extraction of all proteins from initial raw materials and cost-effectiveness of the technology.

Cooperation Offered

1. Technical co-operation