

20 May 2009

Chem-Bio News

1. THE BEST DEFENSE: SCIENTIFIC DETAIL: *"In the Mor lab at the Biodesign Institute, we are developing a novel means to biomanufacture recombinant BSCs based on the human proteins AChE, BChE and PON1 using plant-based systems."*

2. UTMB OFFERS ANOTHER DRAFT OF BIOLAB BILL: *"University of Texas Medical Branch officials vowed Friday to again revise a controversial bill critics say goes too far in blocking the public's right to information about deadly germs at the Galveston National Laboratory."*

3. EU LAUNCHES ANTI-BIO WEAPONS PROGRAMME: *"EU defence ministers on Monday launched a 100-million-euro (135-million-dollar) project to counter the threat against biological weapons."*

4. BATTELLE EXPERTS CHAIR PANELS, PRESENT PAPERS AT DEMILITARIZATION CONFERENCE: *"Battelle experts will chair panels at the 12th International Chemical Weapons Demilitarization Conference in Warwickshire May 18-21 and present papers at various sessions."*

5. ISOTOPE OUTPUT AT CANADA REACTOR HALTED AFTER LEAK: *"Canadian energy authorities have closed a nuclear reactor that produces a third of the world's medical isotopes after a small leak and warned that there could be a shortage of isotopes by as early as Saturday."*

6. NNSA ANNOUNCES REMOVAL OF MORE THAN 73 KILOGRAMS OF HIGHLY ENRICHED URANIUM FROM KAZAKHSTAN: *"The U.S. National Nuclear Security Administration today announced the removal of 73.7 kilograms (162.5 pounds) of Russian-origin highly enriched uranium (HEU) "spent" nuclear fuel from Kazakhstan."*

CB Daily Report

Chem-Bio News

THE BEST DEFENSE: SCIENTIFIC DETAIL

The Biodesign Institute, Arizona State University Fact Sheet
Undated

"A class of bioscavengers (BSCs) known as human cholinesterases (ChEs) have met with considerable clinical success in binding to and sequestering organophosphates. Unfortunately, nerve toxins are able to inactivate these ChEs unless they are additionally supplied with enzymes required to catalyze the degradation of OPs. One such important enzyme, butyrylcholinesterase (BChE)—can be isolated in limited quantity, from human plasma. The enzyme may be used in clinical trials to test its safety and efficacy for biodefense. But broad-based defense from OPs will ultimately require the cost-effective development of a new generation of BSCs that can catalytically degrade organophosphate.

In the Mor lab at the Biodesign Institute, we are developing a novel means to biomanufacture recombinant BSCs based on the human proteins AChE, BChE and PON1 using plant-based systems. This approach has several advantages:

- * Scope: transgenic plants can provide an unparalleled variety of recombinant products
- * Cost: plant-produced cholinesterases are inexpensive to produce and store
- * Scale: Agriculture provides an efficient means of mass production
- * Safety: No contaminating human pathogens or prions are present

Transgenic plants are being evaluated in Mor's laboratory as a source for recombinant human acetylcholinesterase to provide protection from pesticide poisoning and biowarfare agents. Among the challenges facing the Mor group are (a) identification of appropriate protein targets for which other production systems do not exist or have significant limitations (b) continuous development of robust, fast, and agronomically and environmentally sound plant-expression systems (c) study of plant molecular processes, especially post-translational modifications, to enable their manipulation (d) pre-clinical and clinical testing of the plant-produced protein pharmaceuticals for their safety and efficacy and finally (e) use of these new insights for the development of the next generation of protein pharmaceuticals."

The full article can be found at: <http://www.biodesign.asu.edu/research/research-centers/scientific-detail>

[Return to Top](#)

UTMB OFFERS ANOTHER DRAFT OF BIOLAB BILL

By Laura Elder
The Daily News
May 16, 2009

"University of Texas Medical Branch officials vowed Friday to again revise a controversial bill critics say goes too far in blocking the public's right to information about deadly germs at the Galveston National Laboratory."

"While acknowledging the original bill was too broad and would have prohibited the medical branch from releasing any information about so-called select agents, officials defended their intent, which they said was to protect agreements with other laboratories and the names of low-level employees who might be targeted by people opposed to research conducted at such facilities.

The bill's opponents argue Texas laws already protect security-sensitive information and the medical branch can't show how state codes have failed the Galveston National Laboratory, which opened in November.

When asked by Daily News Editor Heber Taylor whether security had been breached under state laws, medical branch President Dr. David Callender said: "No."

The full article can be found at: <http://galvestondailynews.com/story.lasso?ewcd=2e2202d01c186dac>

[Return to Top](#)

EU LAUNCHES ANTI-BIO WEAPONS PROGRAMME

Agence France-Presse on SpaceWar.com

May 18, 2009

"EU defence ministers on Monday launched a 100-million-euro (135-million-dollar) project to counter the threat against biological weapons.

The programme baptised "Bio-Edep" is an initiative of five EU nations -- the Czech Republic, France, Germany, the Netherlands and Spain."

The full article can be found at: http://www.spacewar.com/reports/EU_launches_anti-bio_weapons_programme_999.html

[Return to Top](#)

BATTELLE EXPERTS CHAIR PANELS, PRESENT PAPERS AT DEMILITARIZATION CONFERENCE

Battelle Press Release No. 31-2009

May 19, 2009

"Battelle experts will chair panels at the 12th International Chemical Weapons Demilitarization Conference in Warwickshire May 18-21 and present papers at various sessions.

Presentations about all aspects of chemical weapons will be made in various sessions and include such topics as progress made in the last 10 years, key achievements, lessons learned, and plans for the future with regards to chemical weapons demilitarization."

Link not available.

[Return to Top](#)

ISOTOPE OUTPUT AT CANADA REACTOR HALTED AFTER LEAK

By Scott Anderson

Reuters

May 19, 2009

"Canadian energy authorities have closed a nuclear reactor that produces a third of the world's medical isotopes after a small leak and warned that there could be a shortage of isotopes by as early as Saturday.

Atomic Energy of Canada Ltd said it shut down the 50-year-old reactor at Chalk River, Ontario, late last week after it discovered a small leak of heavy water, used as part of the nuclear reaction process.

It expects the reactor to remain out of operation for more than a month.

Meantime, major isotope producing countries and companies are working co-operatively to address the issue of a possible supply shortage, the Canadian government said."

The full article can be found at: <http://www.reuters.com/article/scienceNews/idUSTRE54I2Y020090519>

[Return to Top](#)

NNSA ANNOUNCES REMOVAL OF MORE THAN 73 KILOGRAMS OF HIGHLY ENRICHED URANIUM FROM KAZAKHSTAN

National Nuclear Security Administration Press Release

May 19, 2009

"The U.S. National Nuclear Security Administration today announced the removal of 73.7 kilograms (162.5 pounds) of Russian-origin highly enriched uranium (HEU) "spent" nuclear fuel from Kazakhstan. The material was removed and returned to Russia by rail for storage at a secure nuclear facility in a series of four shipments between December 2008 and May 2009."

"This is NNSA's Global Threat Reduction Initiative's (GTRI) first Russian-origin HEU spent fuel removal project to be completed since President Obama outlined his nuclear security agenda in speech in Prague last month. It is the second project to be completed in the last year. In October 2008, NNSA removed 154.5-kilogram of Russian spent HEU from Hungary. Kazakhstan joins Bulgaria, the Czech Republic, Hungary, Latvia, and Uzbekistan as the first countries to return Russian-origin HEU spent fuel.

GTRI worked in close cooperation with Kazakhstan and Russia to return the material. Each shipment was packaged into Russian TUK-19 specialized transportation casks that were loaded into TK-5 railroad cars and transported under armed guard from Kazakhstan's Institute of Nuclear Physics to a secure facility in Russia. Upon arrival in Russia, the transportation casks were emptied, inspected, and returned to Kazakhstan to be loaded for the next shipment. The fourth and final shipment was completed in May 2009."

The full article can be found at: <http://nnsa.energy.gov/2372.htm>

[Return to Top](#)

END of CB Daily Report.

Send subscription requests, unsubscribing requests, questions and comments to:

Steve Tesko: Steve.Tesko@anser.org

Copyright 2008. *Analytic Services Inc.*

[Analytic Services Inc. DMCA Copyright Notice: http://www.homelandsecurity.org/bulletin/Draft_ANSER_DCMA_Copyright_Notice.htm](http://www.homelandsecurity.org/bulletin/Draft_ANSER_DCMA_Copyright_Notice.htm)

Use of these news articles does not reflect official endorsement.

In accordance with Title 17 (USC), Section 107, this material is distributed without profit or payment and is intended for nonprofit research and educational purposes only.

Reproduction for private use or gain is subject to original copyright restrictions.

PRIVACY POLICY

Content provided in the *CB Daily Report* does not reflect the viewpoint(s) of Analytic Services Inc. Analytic Services Inc. does not share, publish, or in any way redistribute subscriber email addresses or any other personal information.