

inventors designed a rapid mass spectrometry device using direct impact spark ionization source for microbial analytes identification via spectral pattern recognition. The device design includes a rapid mass spectrometer suitable for analyzing microbiological samples that was earlier used to analyze low volatile organic compounds. The device employs a solid needle for electrode discharge. It includes a gear plate that introduces stainless steel pins carrying bacterial samples. The pins also act as counter electrodes and are targeted by controlled arcs. The small custom-made glass cylinder that is meant to shut out oxygen and prevent the introduction of ambient moisture into the analyte is unique from other DISI device. The examination revealed enormous peak intensity and spectral information with normal ionization mode on the same instrument. This device can be employed in fields such as pathogen determination in clinical settings, QA/QC (of drugs, food or cosmetic ingredients), continuous monitoring of (airborne) Biological Warfare Agents and the like.

*Potential Commercial Applications:*

- Pathogen detection,
- QA/QC (of drugs, food or cosmetic ingredients),
- Continuous monitoring of (airborne) Biological Warfare Agents and the like.

*Competitive Advantages:*

- Rapid, specific, sensitive and reproducible identification of microbiological analytes.
- Systematic acquisition of reproducible spectra among same bacterial species.
- Whole cell analysis of food-borne pathogens is rapid, safer and micro-reliable.
- Characteristic mass spectra obtained and reproduced for food-borne pathogens.
- Unique DISI device with gas cylinder chamber.

*Development Stage:*

- Prototype.
- In vitro data available.

*Inventors:* Peter Alusta, Cameron Dorey, Ryan Parker, Dan A. Buzatu, Jon G. Wilkes (all of FDA/NCTR).

*Intellectual Property:* HHS Reference No. E-258-2011/0—U.S. Patent Application No. 13/271,182 filed 11 Oct 2011.

*Related Technologies:*

- HHS Reference No. E-169-2000/0—U.S. Patent Application No. 09/975,530 filed 10 Oct 2001.
- HHS Reference No. E-259-2011/0—U.S. Provision Application No. 61/564,926 filed 30 Nov 2011.

*Licensing Contact:* Michael A. Shmilovich, Esq., CLP; 301-435-5019; [shmilovm@mail.nih.gov](mailto:shmilovm@mail.nih.gov).

*Collaborative Research Opportunity:* The NCTR/FDA inventors are seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize this device. For collaboration opportunities, please contact Alice Y. Welch, Ph.D. at [Alice.Welch@fda.hhs.gov](mailto:Alice.Welch@fda.hhs.gov).

**Method of Treating Hepatitis C Virus Infection With a Small Molecule CHK2 Inhibitor**

*Description of Technology:* DNA damage sensors such as Checkpoint Kinase 2 (Chk2) are key regulators of the cellular DNA damage response that limits cell-cycle progression in response to DNA damage. It has been reported that these DNA damage sensors also play a key role in Hepatitis C virus (HCV) replication. The subject technology are small molecule CHK2 kinase inhibitors that have been shown to have promising activity against HCV replication. The compounds were discovered by high throughput screening of chemical libraries with more than 150,000 compounds. These novel compounds can potentially be used in combination with other anti-HCV drugs or interferon and represent a novel target for treating HCV. *In vitro* antiviral assay data, as well as preliminary *in vitro* and *in vivo* pharmacokinetic data are available upon request.

*Potential Commercial Applications:* The subject technology can potentially be developed into anti-HCV therapeutics, particularly in combination with other anti-HCV therapeutics.

*Competitive Advantages:* The subject technology represents a novel and promising target for treating HCV infection and thus, has the potential to increase the efficacy of other HCV antivirals that directly target HCV in a multi-drug formulation. Furthermore, since the subject technology targets a cellular protein necessary for HCV replication and not the virus itself, the emergence of viral resistance against the subject technology could be low or more delayed.

*Development Stage:*

- Early-stage.
- Pre-clinical.
- In vitro data available.
- In vivo data available (animal).

*Inventors:* Yves G. Pommier, Robert H. Shoemaker, Dominic A. Scudiero, Andrew G. Jobson, David S. Waugh, George T. Lountos (all of NCI)

*Publications:*

1. Jobson AG, et al. Identification of a Bis-guanylhydrazone [4,4'-Diacetyldiphenylurea-

bis(guanylhydrazone); NSC 109555] as a novel chemotype for inhibition of Chk2 kinase. *Mol Pharmacol* 2007 Oct;72(4):876-884. [PMID 17616632]

2. Jobson AG, et al. Cellular inhibition of checkpoint kinase 2 (Chk2) and potentiation of camptothecins and radiation by the novel Chk2 inhibitor PV1019 [7-nitro-1H-indole-2-carboxylic acid {4-[1-(guanidinohydrazone)-ethyl]-phenyl}-amide]. *J Pharmacol Exp Ther*. 2009 Dec;331(3):816-826. [PMID 19741151]

3. Lountos GT, et al. Crystal structure of checkpoint kinase 2 in complex with NSC 109555, a potent and selective inhibitor. *Protein Sci*. 2009 Jan;18(1):92-100. [PMID 19177354]

4. Lountos GT, et al. X-ray structures of checkpoint kinase 2 in complex with inhibitors that target its gatekeeper-dependent hydrophobic pocket. *FEBS Lett*. 2011 Oct 20;585(20):3245-3249. [PMID 21907711]

5. Lountos GT, et al. Structural characterization of inhibitor complexes with checkpoint kinase 2 (Chk2), a drug target for cancer therapy. *J Struct Biol*. 2011 Dec;176(3):292-301. [PMID 21963792]

*Intellectual Property:* HHS Reference No. E-224-2011/0—U.S. Provisional Patent Application No. 61/551,742 filed 26 Oct 2011.

*Related Technology:* HHS Reference No. E-211-2005/0—U.S. Patent Application No. 11/989,737 filed 29 Jan 2008, with corresponding applications in Europe, Canada, and Australia.

*Licensing Contact:* Kevin W. Chang, Ph.D.; 301-435-5018; [changke@mail.nih.gov](mailto:changke@mail.nih.gov).

Dated: March 22, 2012.

**Richard U. Rodriguez,**  
*Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.*

[FR Doc. 2012-7419 Filed 3-27-12; 8:45 am]

**BILLING CODE 4140-01-P**

**DEPARTMENT OF HOMELAND SECURITY**

**Federal Emergency Management Agency**

[Internal Agency Docket No. FEMA-4057-DR; Docket ID FEMA-2012-0002]

**Kentucky; Amendment No. 5 to Notice of a Major Disaster Declaration**

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice.

**SUMMARY:** This notice amends the notice of a major disaster declaration for the

Commonwealth of Kentucky (FEMA-4057-DR), dated March 6, 2012, and related determinations.

**DATES:** *Effective Date:* March 20, 2012.

**FOR FURTHER INFORMATION CONTACT:** Peggy Miller, Office of Response and Recovery, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646-3886.

**SUPPLEMENTARY INFORMATION:** The notice of a major disaster declaration for the Commonwealth of Kentucky is hereby amended to include the following areas among those areas determined to have been adversely affected by the event declared a major disaster by the President in his declaration of March 6, 2012.

Ballard County for Public Assistance. Johnson, Kenton, Larue, Pendleton, Trimble, and Wolfe Counties for Public Assistance (already designated for Individual Assistance).

The following Catalog of Federal Domestic Assistance Numbers (CFDA) are to be used for reporting and drawing funds: 97.030, Community Disaster Loans; 97.031, Cora Brown Fund; 97.032, Crisis Counseling; 97.033, Disaster Legal Services; 97.034, Disaster Unemployment Assistance (DUA); 97.046, Fire Management Assistance Grant; 97.048, Disaster Housing Assistance to Individuals and Households in Presidentially Declared Disaster Areas; 97.049, Presidentially Declared Disaster Assistance—Disaster Housing Operations for Individuals and Households; 97.050, Presidentially Declared Disaster Assistance to Individuals and Households—Other Needs; 97.036, Disaster Grants—Public Assistance (Presidentially Declared Disasters); 97.039, Hazard Mitigation Grant.

**W. Craig Fugate,**

*Administrator, Federal Emergency Management Agency.*

[FR Doc. 2012-7396 Filed 3-27-12; 8:45 am]

**BILLING CODE 9111-23-P**

**DEPARTMENT OF HOMELAND SECURITY**

**Federal Emergency Management Agency**

[Internal Agency Docket No. FEMA-4057-DR; Docket ID FEMA-2011-0001]

**Kentucky; Amendment No. 4 to Notice of a Major Disaster Declaration**

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice.

**SUMMARY:** This notice amends the notice of a major disaster declaration for the Commonwealth of Kentucky (FEMA-4057-DR), dated March 6, 2012, and related determinations.

**DATES:** *Effective Date:* March 16, 2012.

**FOR FURTHER INFORMATION CONTACT:** Peggy Miller, Office of Response and Recovery, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646-3886.

**SUPPLEMENTARY INFORMATION:** The notice of a major disaster declaration for the Commonwealth of Kentucky is hereby amended to include the Public Assistance program for the following areas among those areas determined to have been adversely affected by the event declared a major disaster by the President in his declaration of March 6, 2012.

Grant, Laurel, Lawrence, Magoffin, Martin, Menifee, and Morgan Counties for Public Assistance (already designated for Individual Assistance).

The following Catalog of Federal Domestic Assistance Numbers (CFDA) are to be used for reporting and drawing funds: 97.030, Community Disaster Loans; 97.031, Cora Brown Fund; 97.032, Crisis Counseling; 97.033, Disaster Legal Services; 97.034, Disaster Unemployment Assistance (DUA); 97.046, Fire Management Assistance Grant; 97.048, Disaster Housing Assistance to Individuals and Households in Presidentially Declared Disaster Areas; 97.049, Presidentially Declared Disaster Assistance—Disaster Housing Operations for Individuals and Households; 97.050, Presidentially Declared Disaster Assistance to Individuals and Households—Other Needs; 97.036, Disaster Grants—Public Assistance (Presidentially Declared Disasters); 97.039, Hazard Mitigation Grant.

**W. Craig Fugate,**

*Administrator, Federal Emergency Management Agency.*

[FR Doc. 2012-7399 Filed 3-27-12; 8:45 am]

**BILLING CODE 9111-23-P**

**DEPARTMENT OF HOMELAND SECURITY**

**Federal Emergency Management Agency**

[Docket ID FEMA-2012-0003; Internal Agency Docket No. FEMA-B-1246]

**Proposed Flood Hazard Determinations**

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice.

**SUMMARY:** Comments are requested on proposed flood hazard determinations, which may include additions or modifications of any Base Flood Elevation (BFE), base flood depth, Special Flood Hazard Area (SFHA) boundary or zone designation, or regulatory floodway on the Flood Insurance Rate Maps (FIRMs), and where applicable, in the supporting

Flood Insurance Study (FIS) reports for the communities listed in the table below. The purpose of this notice is to seek general information and comment regarding the preliminary FIRM, and where applicable, the FIS report that the Federal Emergency Management Agency (FEMA) has provided to the affected communities. The FIRM and FIS report are the basis of the floodplain management measures that the community is required either to adopt or to show evidence of having in effect in order to qualify or remain qualified for participation in the National Flood Insurance Program (NFIP). In addition, the FIRM and FIS report, once effective, will be used by insurance agents and others to calculate appropriate flood insurance premium rates for new buildings and the contents of those buildings.

**DATES:** Comments are to be submitted on or before June 26, 2012.

**ADDRESSES:** The Preliminary FIRM, and where applicable, the FIS report for each community are available for inspection at both the online location and the respective Community Map Repository address listed in the tables below. Additionally, the current effective FIRM and FIS report for each community are accessible online through the FEMA Map Service Center at [www.msc.fema.gov](http://www.msc.fema.gov) for comparison.

You may submit comments, identified by Docket No. FEMA-B-1246, to Luis Rodriguez, Chief, Engineering Management Branch, Federal Insurance and Mitigation Administration, FEMA, 500 C Street SW., Washington, DC 20472, (202) 646-4064, or (email) [Luis.Rodriguez3@fema.dhs.gov](mailto:Luis.Rodriguez3@fema.dhs.gov).

**FOR FURTHER INFORMATION CONTACT:** Luis Rodriguez, Chief, Engineering Management Branch, Federal Insurance and Mitigation Administration, FEMA, 500 C Street SW., Washington, DC 20472, (202) 646-4064, or (email) [Luis.Rodriguez3@fema.dhs.gov](mailto:Luis.Rodriguez3@fema.dhs.gov); or visit the FEMA Map Information eXchange (FMIX) online at [www.floodmaps.fema.gov/fhm/fmx\\_main.html](http://www.floodmaps.fema.gov/fhm/fmx_main.html).

**SUPPLEMENTARY INFORMATION:** FEMA proposes to make flood hazard determinations for each community listed below, in accordance with section 110 of the Flood Disaster Protection Act of 1973, 42 U.S.C. 4104, and 44 CFR 67.4(a).

These proposed flood hazard determinations, together with the floodplain management criteria required by 44 CFR 60.3, are the minimum that are required. They should not be construed to mean that the community