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Implementation of qPCR method for detecting new *Orthopoxvirus* in milk samples**Marina Donduashvili**

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Background: The recent discovery (2013) of a new Orthopoxvirus (OPXV) in Georgia demonstrates the need for poxvirus detection and diagnosis capacity in country. Because of the emergence of new pathogenic poxviruses, there is a great need for the development of PCR method for detecting poxvirus. Laboratory of Ministry of Agriculture (LMA) will develop laboratory capacity for performing routine poxvirus surveillance in animals.

Method: In this study, milk samples were collected from cattle. An optimized PCR assay for the detection of orthopoxviruses are in the process of development by LMA researchers in collaboration with CDC-Atlanta. DNA has been extracted from milk samples using standard operation procedures and Wizard Plus SV Minipreps DNA Purification System. This is a generic assay designed to detect all OPXV species except variola virus. In this way, will be recovered any additional new isolates or other species of OPXV that may be circulating in the region. All the positive samples will be further characterized to establish species identification and marked for genome sequencing.

Result: At present 886 milk sample has been collected. Out of this, 536 milk samples are extracted and tested by two different PCR instrument: Light Cycler 2.0 and Applied Biosystems™ 7500 Fast. The results are negative and the sample testing is continued.

Conclusion: New assays will be adopted and validated for detecting new OPXV variants in milk samples from cattle, which will result in improved capacity for efficient identification and diagnosis of emerging OPXV and will as well improve bio-surveillance capacity for OPXV in both human and animal populations.

Biography

Marina Donduashvili PhD is an expert in diagnostics of especially dangerous zoonotic diseases. She has demonstrated experience in the fields of molecular and serological diagnostic of FMD, Brucellosis, Anthrax, AI, ASF and CSF, Capripox. Since 2005-establishment of BSL laboratory network of Laboratory of the Ministry of Agriculture she has led the biosafety/biosecurity programs and has become one of the leading specialists in this field in Georgia with the proven record of achieving the international standards for the LMA network. she is a graduate of the South Caucasus Field Epidemiology and Laboratory Training Program (FELTP) and active participant in numerous international symposiums and conferences. She is also an experienced manager of several large scale, collaborative research projects through CBR, including BAA projects. Major publications authored or co-authored by her are dedicated to issues of meat and dairy production increase, molecular and serological diagnostics and biosafety. she is certified to work at BSL 3 level.

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