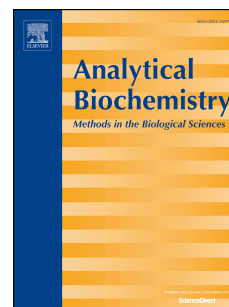


Accepted Manuscript

Rapid detection of potyviruses from crude plant extracts

Gonçalo Silva, Joshua Oyekanmi, Chukwuemeka K. Nkere, Moritz Bömer, P. Lava Kumar, Susan E. Seal



PII: S0003-2697(18)30032-0

DOI: [10.1016/j.ab.2018.01.019](https://doi.org/10.1016/j.ab.2018.01.019)

Reference: YABIO 12910

To appear in: *Analytical Biochemistry*

Received Date: 29 September 2017

Revised Date: 18 January 2018

Accepted Date: 21 January 2018

Please cite this article as: Gonç. Silva, J. Oyekanmi, C.K. Nkere, M. Bömer, P.L. Kumar, S.E. Seal, Rapid detection of potyviruses from crude plant extracts, *Analytical Biochemistry* (2018), doi: 10.1016/j.ab.2018.01.019.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Rapid detection of potyviruses from crude plant extracts

Gonçalo Silva^{a*}, Joshua Oyekanmi^b, Chukwuemeka K. Nkere^{b,c}, Moritz Bömer^a, P. Lava Kumar^b, Susan E. Seal^a

^a Natural Resources Institute, University of Greenwich, Chatham Maritime, Kent ME4 4TB, UK

^b International Institute of Tropical Agriculture (IITA), Oyo Road, PMB 5320, Ibadan, Nigeria

^c National Root Crops Research Institute, Km 8 Ikot Ekpene Road, PMB 7006, Umudike, Nigeria

* Corresponding author

Tel.: +44 (0) 1634 883158

E-mail address: g.silva@gre.ac.uk

Abstract (200 words)

Potyviruses (genus *Potyvirus*; family *Potyviridae*) are widely distributed and represent one of the most economically important genera of plant viruses. Therefore, their accurate detection is a key factor in developing efficient control strategies. However, this can sometimes be problematic particularly in plant species containing high amounts of polysaccharides and polyphenols such as yam (*Dioscorea* spp.). Here, we report the development of a reliable, rapid and cost-effective detection method for the two most important potyviruses infecting yam based on reverse transcription-recombinase polymerase amplification (RT-RPA).

The developed method, named ‘Direct RT-RPA’, detects each target virus directly from plant leaf extracts prepared with a simple and inexpensive extraction method avoiding laborious extraction of high-quality RNA. Direct RT-RPA enables the detection of virus-positive

Download English Version:

<https://daneshyari.com/en/article/7556988>

Download Persian Version:

<https://daneshyari.com/article/7556988>

[Daneshyari.com](https://daneshyari.com)