

VU Research Portal

Advancing virus and viral protein analysis in vaccine development and production

van Tricht, E.

2020

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

van Tricht, E. (2020). *Advancing virus and viral protein analysis in vaccine development and production: Method development and implementation*. [PhD-Thesis - Research and graduation internal, Vrije Universiteit Amsterdam].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

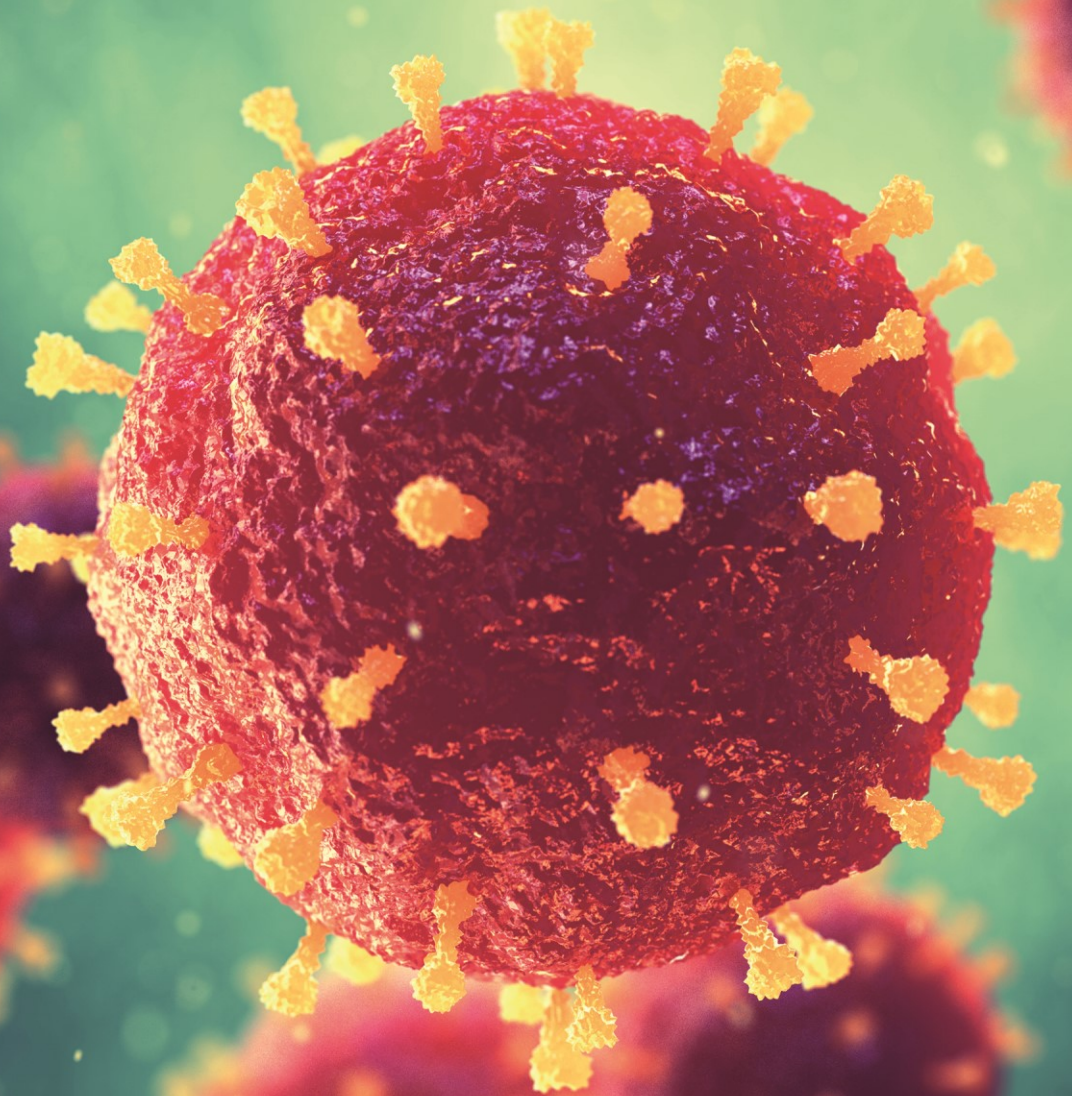
Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

Table of contents



| | | |
|----------|---|-----|
| 1 | Introduction and scope | 9 |
| 2 | New capillary gel electrophoresis method for fast and accurate identification and quantification of multiple viral proteins in influenza vaccines | 35 |
| 3 | Fast, selective and quantitative protein profiling of adenovirus-vector based vaccines by ultra-performance liquid chromatography | 57 |
| 4 | One single, fast and robust capillary electrophoresis method for the direct quantification of intact adenovirus particles in upstream and downstream processing samples | 81 |
| 5 | Implementation and application of Analytical Quality by Design (AQbD) in vaccine development | 105 |
| 6 | Implementation of at-line capillary zone electrophoresis for fast and reliable determination of adenovirus concentrations in vaccine manufacturing | 135 |
| 7 | Summary, conclusions and perspectives | 159 |
| | List of publications | 175 |
| | Acknowledgements | 177 |