Paul Butler

What is the interest to provide platforms for developing and sharing reproducible methods?

Springer Nature, London, UK
paul.butler@springernature.com

Paul Butler

Protocols.io at Springer Nature

SPRINGER NATURE GROUP

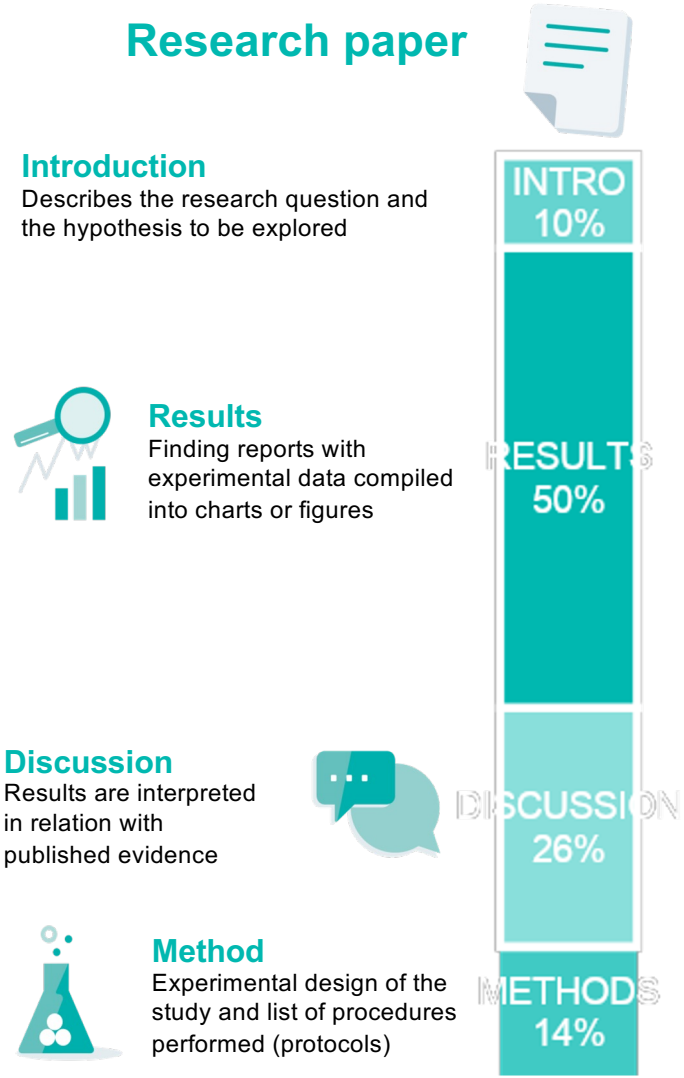
Research paper

Introduction
Describes the research question and the hypothesis to be explored

Results
Finding reports with experimental data compiled into charts or figures

Discussion
Results are interpreted in relation with published evidence

Method
Experimental design of the study and list of procedures performed (protocols)



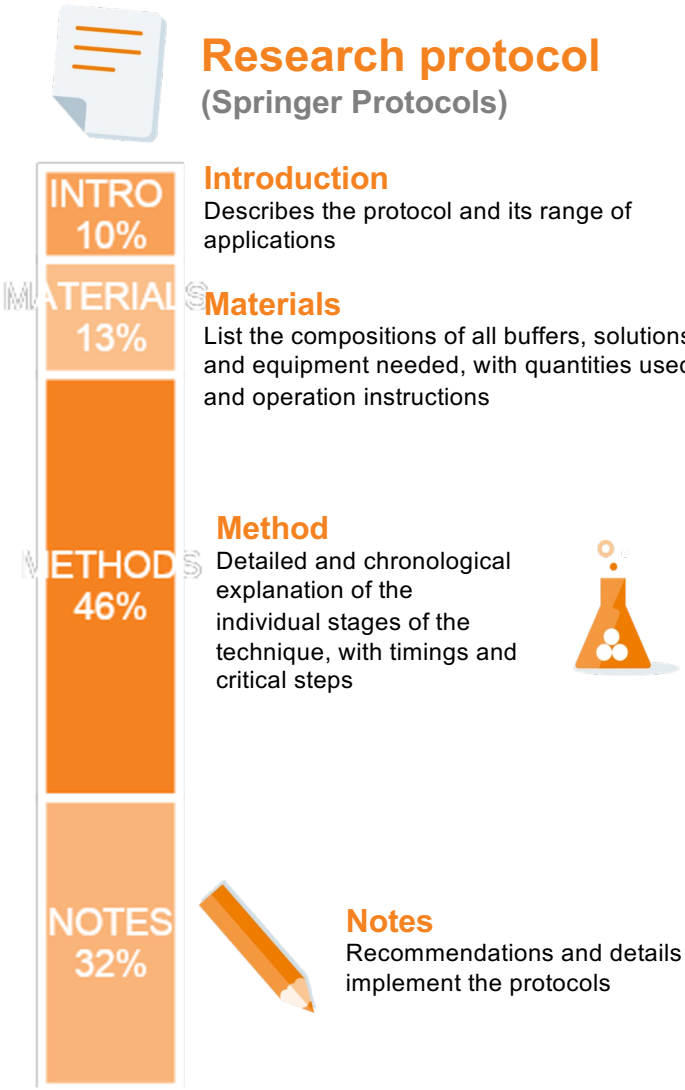
Research protocol
(Springer Protocols)

Introduction
Describes the protocol and its range of applications

Materials
List the compositions of all buffers, solutions and equipment needed, with quantities used and operation instructions

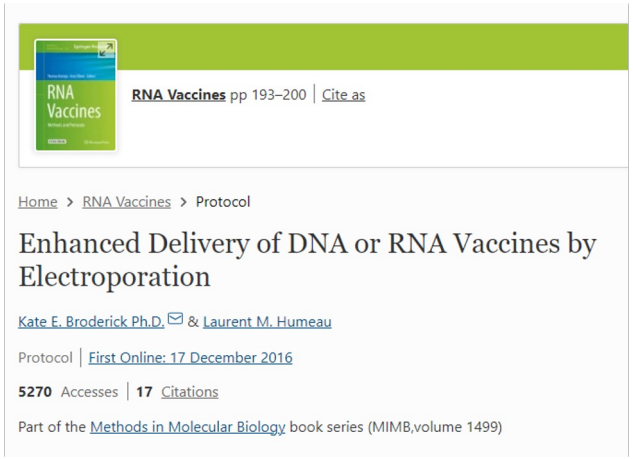
Method
Detailed and chronological explanation of the individual stages of the technique, with timings and critical steps

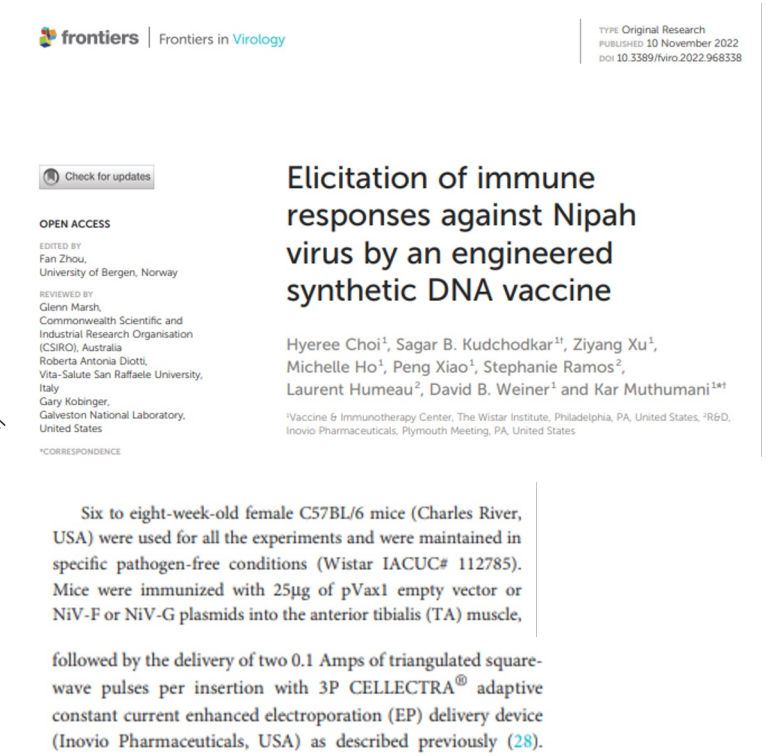
Notes
Recommendations and details to implement the protocols

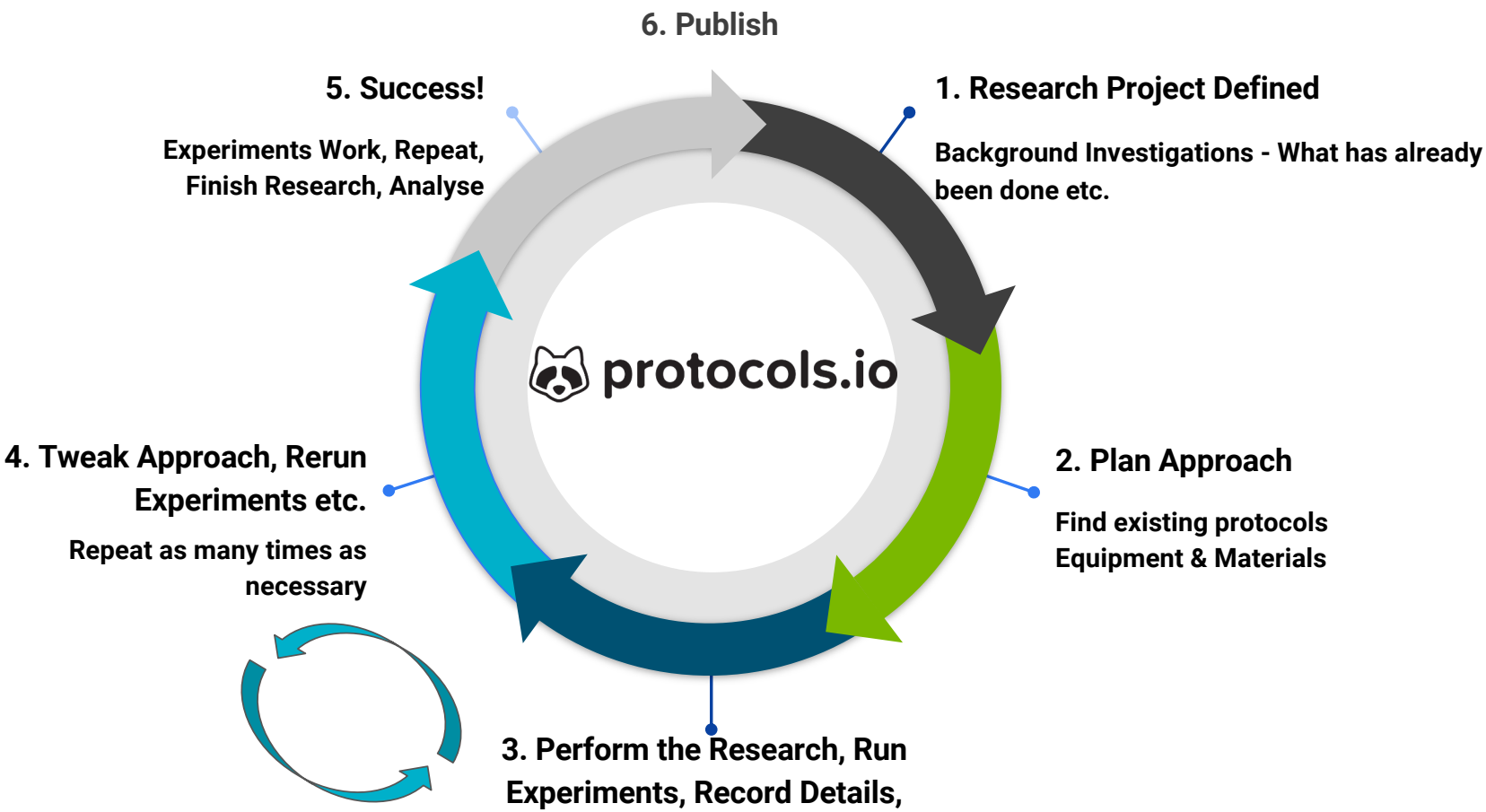


Illustrative example based on the paper CRISPR/Cas9 system targeting regulatory genes of HIV-1 inhibits viral replication in infected T-cell cultures, Youdiil Ophinni, Mari Inoue, Tomohiro Kotaki2 & Masanori Kameoka, Scientific Reports (2018) and protocol Beads-on-a-String on a Bead: Reconstitution and Analysis of Chromatin on a Solid Support, Raphael Sandaltzopoulos and Peter B. Becker, Chromatin Protocols, Methods in Molecular Biology, vol. 1288 (2015)

Example: experimental procedure is heavily condensed in research papers






6. Publish
5. Success!
Experiments Work, Repeat, Finish Research, Analyse
1. Research Project Defined
Background Investigations - What has already been done etc.
protocols.io
4. Tweak Approach, Rerun Experiments etc.
Repeat as many times as necessary
2. Plan Approach
Find existing protocols
Equipment & Materials
3. Perform the Research, Run Experiments, Record Details, Gather Data, Analyse
Assess if successful?