The Reproducible Researcher

Key Resource Tables

A Guide for Creating a Key Resource Table

The ASAP Open Science Team
Dana Lewis, PhD
Matthew Lewis, PhD
Devin Snyder, PhD
Robert Thibault, PhD

Key Resource Tables

This document provides guidance on how to create a key resource table.

The ASAP Open Science Policy requires all datasets, protocols, code & software, and lab materials be unambiguously identified in a manuscript. **ASAP recommends that ASAP-funded researchers complete a Key Resource Table (KRT) for every manuscript.**

If you have additional questions, please see the Key Resource Table FAQs or email the Open Science Team at **openscience@parkinsonsroadmap.org** with the subject title: "Key Resource Table Question:..."

Table of Contents

Key Resource Tables

What is a Key Resource Table (KRT)?

A KRT is a structured table that lists the resources used and the resources generated in a study. For example, reagents, model organisms, software, and datasets.

If you have previously published in a journal requiring STAR*Methods (e.g. *Cell Press),* you have already created a KRT for those publications (e.g., see this ASAP paper and this ASAP paper).

Why does ASAP recommend KRTs?

Journals that require KRTs have more thorough reporting. Before *Cell* and *eLife* began requesting KRTs, a reader could unambiguously identify only about 25% of antibodies reported in those journals. After requesting KRTs, nearly 100% of antibodies reported in these journals were unambiguously identifiable (Menke et al., 2020, Figure 2). This means that others can better understand what you did and more easily build on your work.

Additionally, using a KRT will increase the chance that your manuscript is compliant with ASAP's Open Science policies and will streamline our compliance review. If you write a manuscript on a similar study in the future, you can simply copy the KRT from your last study and edit it accordingly.

What information goes in my KRT?

ASAP requires reporting of 4 types of resources, regardless of whether you generated the resource (i.e., a research output) or used a pre-existing resource (i.e., a research input). These types of resources are:

1. **Datasets**
2. **Software/code**
3. **Protocols**
4. **Lab materials**. Note, lab materials are divided into several subtypes, including:
    a. Antibodies
    b. Bacterial and virus strains

c. Biological samples

d. Chemicals, peptides, and recombinant proteins

e. Critical commercial assays

f. Experimental models: Cell lines

g. Experimental models: Organisms/strains

h. Oligonucleotides

i. Recombinant DNA

You will enter a single row for each resource used or generated in your study. For each row you will need to enter information for 5 columns.

1. Resource Type
2. Resource Name
3. Source
4. Identifier
5. Whether the resource is newly generated or reuse of a preexisting resource
6. Additional information (optional)

While the format of the information you input will vary for different types of resources, **each row must have enough information so that someone unfamiliar with your study can unambiguously identify the resource you are describing.**

A reader must also be able to identify in what capacity each resource was used. For example, all antibodies listed in the KRT, must also be named within a specific methods section or within a published protocol that also appears in the KRT.

How do I complete a KRT?

1. **Start by opening the template KRT for ASAP-funded manuscripts**. Have a look at the KRT Example (tab 2 of the spreadsheet) and the KRT Template (tab 3).
2. **Make a copy of the KRT template** in a new spreadsheet and begin entering the resources used and generated in your study.

3. **Add and remove rows as needed.**

    a. **If you did not use or generate a specific resource type, delete that row**. For example, if your study did not use any cell lines, then delete the row “Experimental model: Cell line”.

    j. **If you used or generated several of a specific resource type, add a row for each individual resource.** For example, if your study used 12 different antibodies, add rows until you have a total of 12 rows with “Antibody” as the resource type.

4. **RESOURCE TYPE.** Use only the pre-populated names for this column (e.g., “Dataset”, “Experimental model: Organism/strain”). Do not change the wording of the resource types. If you are reporting a resource that does not fit into any of the 13 resource types provided, select “Other” as the resource type.

5. **RESOURCE NAME.** Provide a descriptive name that matches how the resource is named within the text of your manuscript. In other words, when a reader identifies a resource in the methods section of your manuscript, they should be able to unambiguously match that resource to the correct row in your KRT. For software, include the version number in this column.

5. **SOURCE.** Report the vendor, individual, repository, organization, or other relevant information about where the resource can be obtained.

6. **IDENTIFIER.** Enter a Persistent Identifier (PID), where one exists. For example, these could be RRIDs, accession numbers, DOIs, and URLs. If both a DOI and a non-DOI URL exist, enter the DOI (e.g., for Zenodo deposits). If including more than one identifier in a single row is not redundant, then please do so (e.g., a catalog number and an RRID for antibodies).

7. **NEW/REUSE.** If the resource is a dataset, analysis script / code, protocol, or lab material that was newly generated by or for your study, enter “new”. Otherwise, enter “reuse”. If you published a protocol on protocols.io that is a slight variation of a protocol that already exists, enter “new”. If you are referencing a protocol you made, but that has already been published in relation to another study, enter “reuse”.

8. **ADDITIONAL INFORMATION.** This column is optional for all rows. The main purpose of this column is to provide a space to include any text that is needed to ensure a reader can unambiguously identify the resource and how it was used. For example, we encourage you to identify the figure panels or tables that each newly generated dataset and code produced. Information such as dilution factor

for antibodies can also be included here. You may also use this space to explain any of the information in the other columns (e.g., to note that an RRID does not exist for a specific resource).

Where do I publish / deposit a completed KRT?

Open Science Compliance Check. When submitting a manuscript for compliance review, include your KRT as a .csv file. Thus, your submission for compliance review should include (1) a PDF of the entire manuscript, with all text, figures, tables, graphics, and captions; and (2) a KRT .csv file.

Preprints & Publications. We recommend you include the completed KRT as a regular table within your preprint and publication. If you do not include the KRT as a regular table, deposit it to Zenodo. In both situations we encourage you to include the following statement as part of the Data Availability section (or equivalent section) of your preprint and publication.

> *"The datasets, software/code, protocols, and lab materials used and/or generated in this study are listed in a Key Resource Table alongside their persistent identifiers at [enter the Table number or Zenodo DOI]."*

Where can I get more information?

If you have additional questions about KRTs, please refer to the Key Resource Table FAQ. If the FAQ does not answer your question, email us at **openscience@parkinsonsroadmap.org**with the subject line that begins with "KRT question: ".

Please note that the guidance in this document will be updated as we learn more about how to best integrate KRTs into our Open Science workflow. Thank you for working with us as we evaluate new ways to facilitate open science.