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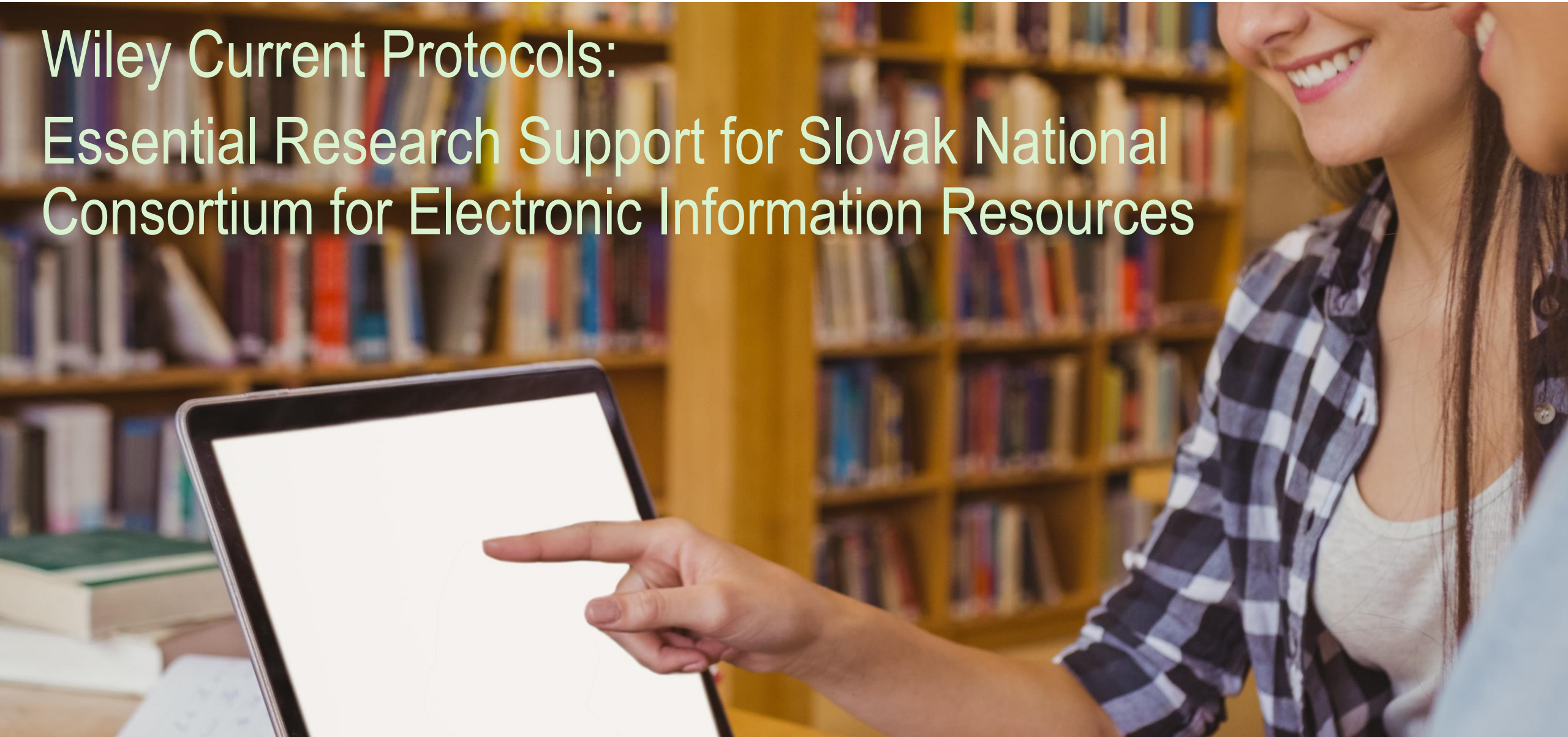
Wiley Current Protocols:

Essential Research Support for Slovak National Consortium for Electronic Information Resources



Detailed Protocol vs. Materials and Methods section of a journal article…

- A *Materials and Methods* section provides a sentence to describe the protocol used. Journal articles do not give sufficient details in the Materials and Methods sections to replicate the experiment.

- ***Current Protocols*** provides multiple, multi-paged step-by-step directions to describe the protocol.

Protein Structure Report

High-resolution crystal structure of FKBP12 from *Aedes aegypti*

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Materials and Methods

Cloning, expression, and purification

The gene sequences encoding *Aa*FKBP12 were synthesized from GenScript (Piscataway, NJ). The PCR-amplified DNA fragment was inserted into pETSUMO (Novagen, Madison, WI) to generate pETSUMO-*Aa*FKBP12 with a hexahistidine tag at the N-terminus. The protein was expressed in *Escherichia coli* BL21(DE3) cells and purified by consecutive cycles of Ni-NTA metal affinity chromatography, before and after cleaving the SUMO-tag.

Crystallization, data collection, and structure determination

Crystal screening was performed at 15 mg/mL protein concentration, using hanging drop vapor diffusion method, with an ammonium sulfate-buffer grid. The reservoir contained 500 μL of the screening solution, and the drop constituted of 4 μL with equal volume of protein and reservoir solution. Crystals of $0.5 \times 0.5 \times 0.1$ mm^3 size appeared in 3.0*M* ammonium sulphate and 0.1*M* MOPS buffer pH 8.0, in 5 days. The crystals were cryo protected with 20% glycerol added to the reservoir solution and data, up to 1.3 Å resolution, was collected at 100 K on beamline 13B1 at the National Synchrotron Radiation Research Center (Hsinchu, Taiwan) using an ADSC-Quantum 315 detector. Two datasets (a low and high

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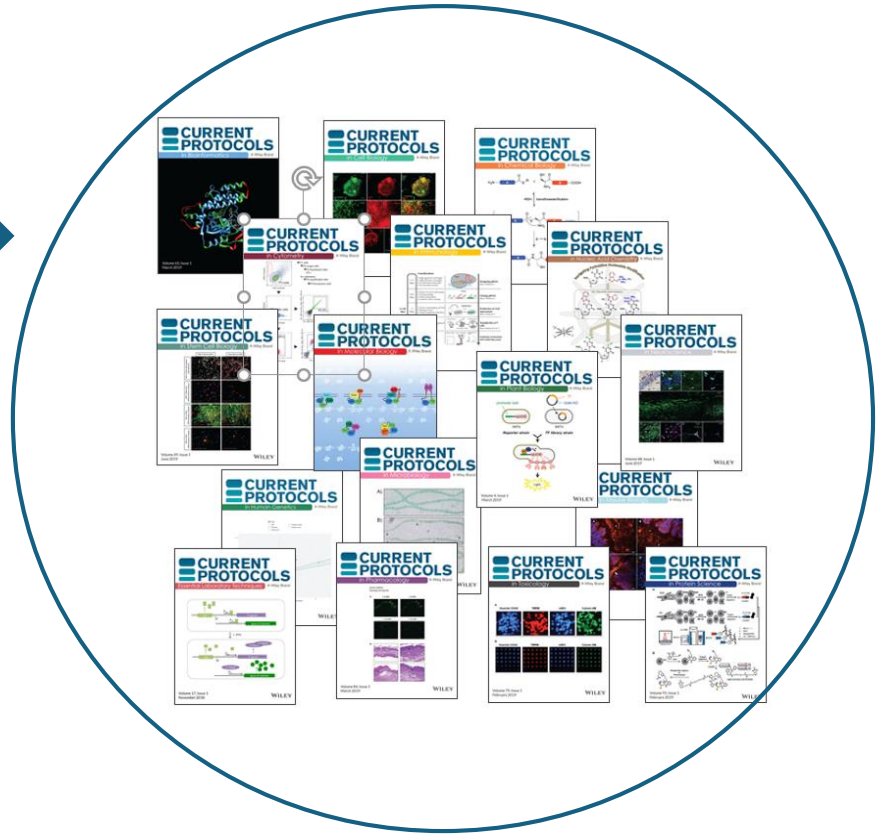
- Nucleic Acid Chemistry
- Toxicology

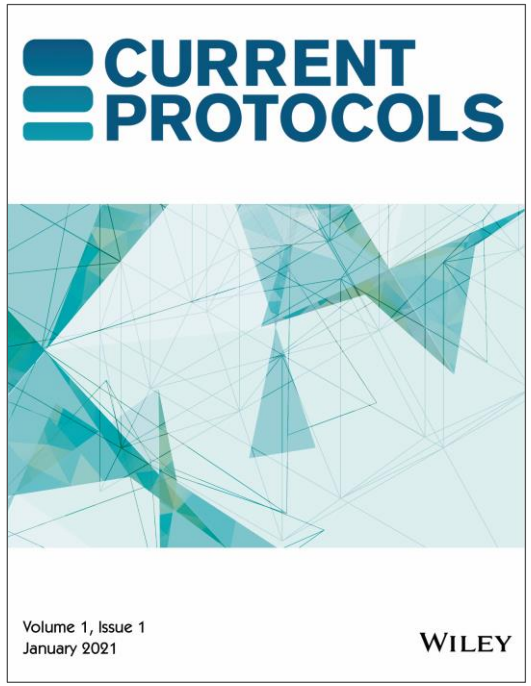
Current Protocols has been the trusted source of lab protocols for over 30 years

1987: updateable loose-leaf binders



17 online protocol collections

One interdisciplinary journal



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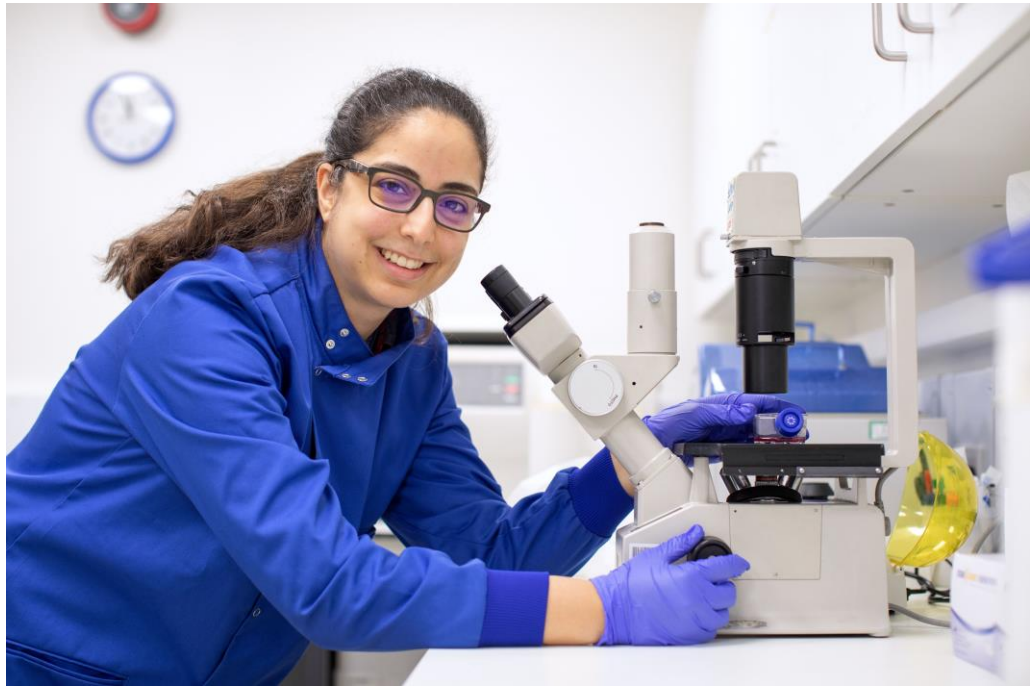
Who should use Current Protocols?

- Our protocols are written for someone who is new to the lab or whose research direction requires new methods.
- Principal Investigators use *Current Protocols* for writing grants and planning experiments.

Others include...

- Graduate/Undergraduate students
- Postdocs
- Technicians
- Scientists (academia, industry, government labs)
- Principal investigators and Department heads



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How can Current Protocols support users at Slovak Academy of Sciences and Comenius University Bratislava ?

Slovak Academy of Sciences

Institute of Molecular Biology

Cell Biology: Transfecting cells with CRISPR constructs to create gene knockout models

Molecular Biology: Cloning novel genes into expression vectors and optimizing protein expression

Immunology: Developing monoclonal antibodies against newly discovered proteins

Institute of Chemistry

Chemical Biology: Synthesizing small molecule inhibitors and testing biological activity

Protein Science: Expressing, purifying, and crystallizing proteins for X-ray structure determination

Nucleic Acid Chemistry: Creating modified oligonucleotides for therapeutic applications

Institute of Plant Genetics and Biotechnology

Plant Biology: Genetic transformation of crops and analyzing transgene expression

Microbiology: Isolating beneficial soil bacteria that promote plant growth

Comenius University Bratislava

Medical, Natural Sciences, and Pharmacy Faculties

Medical Research

Human Genetics: Genetic analysis, disease research, diagnostic techniques

Pharmacology: Drug development, therapeutic testing, toxicology studies

Cell Biology: Cancer research, cellular mechanisms, biomarker identification

Natural Sciences Education & Research

Molecular Biology: Laboratory techniques training, research methodology, molecular analysis

Microbiology: Pathogen identification, environmental studies, biotechnology applications

Essential Lab Techniques: Fundamental methods for undergraduate and graduate training

Biomedical Research Institutes

Neuroscience: Neural research, brain studies, neurological disease investigation

Immunology: Immune system research, inflammatory diseases, therapeutic development

Bioinformatics: Data analysis, computational biology, genomics research

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