

William Telford received his Ph.D. in microbiology from Michigan State University in 1994, where his laboratory developed some of the earliest techniques for flow cytometric detection of apoptosis. He received his postdoctoral training in immunology at The University of Michigan Medical School, was appointed assistant scientist at the Hospital for Special Surgery in New York City from 1997 to 1999. Dr. Telford became a Staff Scientist at the National Cancer Institute, National Institutes of Health in 1999, and is currently an Senior Associate Scientist and director of the flow cytometry core laboratory in the NCI Laboratory of Pathology. Dr. Telford's main research interests include: instrument development, particularly in the area of novel solid state laser integration into flow cytometers; flow cytometric stem cell detection and characterization; and functional characterization of early apoptosis by flow and image cytometry.



Seminar: Analysis of proliferation and apoptosis by flow cytometry

We will flow cytometry assays for proliferation and apoptosis, in preparation for more advanced seminars on the topics. This review will be of interest for both basic scientists and clinicians.

Relevant Literature:

1. **Telford WG**, Multiparametric analysis of apoptosis by flow cytometry. In *Methods in Molecular Biology Volume 1678, Flow Cytometry Protocols*, 5th Edition, Hawley TS, Hawley RG, eds., Humana Press, London, UK, pp.167-202, 2018.
2. **Telford WG**, Tamul K, Bradford J, Measurement and characterization of apoptosis by flow cytometry. In *Current Protocols in Cytometry*, Robinson JP, Darzynkiewicz Z, Dobrucki J, Hoffman RA, Nolan JP, Orfao A, Rabinovitch PS, Telford WG, eds., John Wiley and Sons, New York, NY, Unit 9.49, pp. 9.49.1 – 9.49.28., 2016.
3. **Telford WG**, Measurement of apoptosis by multiparametric flow cytometry. In *Methods in Pharmacology and Toxicology, Apoptosis Methods in Toxicology and Pharmacology*, Springer Science and Business Media, pp. 49-76, doi.org/10.1007/978-1-4939-3588-8-4., 2016.
4. Abrams J, **Telford WG** and Rollins R., The many roads to cell death: discriminating between apoptosis, necrosis and autophagy. *Drug Discovery World Winter 2014/2015*, pp. 41-46., 2014.
5. **Telford WG**, A violet ratiometric membrane probe for the detection of apoptosis (invited book chapter). In *Current Protocols in Cytometry*, Robinson JP, Darzynkiewicz Z, Dobrucki J, Hoffman RA, Nolan JP, Orfao A, Rabinovitch PS, eds., John Wiley and Sons, New York, NY, 59:9.38.1-9.38, 2012.
6. Wlodkowic D, **Telford WG**, Skommer J, Darzynkiewicz Z., Apoptosis and beyond: Cytometry in studies of programmed cell death. In *Recent Advances in Cytometry, Methods in Cell Biology Volume 103*, Darzykiewicz Z et al. eds., Academic Press, New York, NY, pp. 55-99., 2011.