Mass spectrometry-based characterization of proteins exposed to inflammatory oxidants

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Proteins are major targets of oxidants produced by activated immune cells, such as peroxynitrous acid (ONOOH) and hypochlorous acid (HOCl). These oxidants kill bacteria and other invading pathogens, but can also cause collateral damage to host cells and tissue, and contribute to the development of numerous inflammatory diseases. In this talk, I will outline the mass spectrometry-based workflows we are applying in our lab to study how oxidants influence protein structures and present some recent data where we have mapped modifications in oxidized proteins derived from extracellular traps.