

Funding Opportunity in Single Cell Proteomics

The National Cancer Institute has recently announced the funding opportunity for Single Cell Proteomics in Interrogating the premalignant and early malignant lesions. The purpose of this Notice of Special Interest (NOSI) is to: (1) encourage investigators to apply single-cell proteomics for interrogation of premalignant and early malignant lesions; (2) develop new multiparametric biomarkers for cancer screening, early detection and risk assessment; and, (3) establish a biomarkers workflow for a wide coverage of disease variability and individuals at the population level.

Recent advances in single-cell genomic and transcriptomic technologies enabled a better understanding of the cellular content of tumorigenic lesions, including early detection of clonal evolution, detection of the emergence of drug-resistant cells and improved phenotypic characterization of the lesion's cellular heterogeneity. Single-cell mass spectroscopy-based proteomics and antibody-based targeted proteomics are emerging as powerful complementary approaches for the characterization of individual cell types within a lesion, their intercellular networks, and their dynamic physiological state. In addition, these approaches can be used to identify, map and visualize aberrant subcellular structures, intracellular networks, molecular interactomes, and proteoforms some with cancer-associated posttranslational modifications that cannot be predicted by genomic/transcriptomic analysis. The detected molecular, structural and functional aberrations are potential cancer markers and targets for prevention and therapy.

For further details on how to apply, see <https://grants.nih.gov/grants/guide/notice-files/NOT-CA-20-044.html>. Any questions regarding this NOSI can be addressed to:

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