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KuiqpicK™ and UnipicK™: Versatile instruments for single cell acquisition and complex heterogeneous tissue microdissection

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Cell specific studies are imperative for sound research in molecular biology and biomedical research. Tissue heterogeneity (e.g., brain) poses significant challenge for retrieval of cell and region specific information. Moreover,recent progress in single cell research creates strong demand for rapid acquisition of individual cells from both tissues cell cultures. However, existing approaches of single cell acquisition, such as flow sorting and laser assisted microdissection are costly, sophisticated and often methodologically limited. We have developed a line of versatile instruments (e.g., KuiqpicK™, UnipicK™) which are compatible with any inverted microscope and have a wide range of cell and tissue acquisition parameters. Both instruments permit rapid collection of individual cells from various cell cultures and tissues for a range of downstream applications including function single cell studies, high quality protein, RNA and DNA isolation and sequence analysis. Collection of cells may be performed directly from native tissues and cell cultures with low impact on cellular viability. Native, fresh frozen, and sucrose treated tissues could be used for microdissection. Here, the recent progress in the instrument's automation is presented further widening potential areas of application.

Biography

Stanislav L Karsten has completed his PhD in Medical Genetics and Pathology from Uppsala University, Sweden in 2000 and Post-doctoral studies in Functional Neurogenomics from UCLA in 2004. Currently, he is a President and CEO of NeuroInDx, Inc., a California based company focused on the development of instrumentation for cell and tissue specific sample acquisition and analysis in biomedical research. Prior to his position at NeuroInDx, he was an Assistant Professor of Neurology where his laboratory conducted research in neuroscience. His research work was published in over 30 peer-reviewed journals including *Nature, Neuron* and *PNAS* and resulted in several patents.

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