

Identification of membrane-associated cancer-specific drug targets using the ProteomeLab™ PF-2D, in tandem with mass spectrometry

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ABSTRACT

Viventia Biotech is dedicated to creating safer and more beneficial human antibody based cancer therapies. Our approach of using the human immune response to cancer as a target discovery tool opens the opportunity to screen for an immune response against all cancer-specific targets on the cell surface. The process of validating any antibody as a product candidate by our discovery and screening platforms subsequently authenticates the corresponding cognate antigen as a drugable target. To identify these targets, Viventia has built a proteomics-driven platform based upon leading edge protein identification and characterization tools. This process comprises a liquid-phase separation involving chromatofocusing (1D separation) combined with the Reversed-Phase-HPLC (2D separation) that effectively separates a wide range of proteins in a short period of time. As applied to the separation of membrane antigens and membrane associating antigens, this technology is capable of creating first and second dimensional chromatographic profiles and second dimensional banding patterns. When coupled to mass spectrometry on the fractionating end, this system could prove to be a reproducible, high throughput system, yielding high-resolution separation for routine antigen analysis. A proof-of-concept of the applicability of this technology has been reported for HER-2 and is currently being applied to our lead product candidates.