

From Acquisition to Identification Using Global Data Resources: Fast, Comprehensive Knowledge Building in 2-D Electrophoresis

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Traditional approaches to knowledge building using sets of large databases in conjunction with heterogeneous experimental data encounter severe shortcomings due to different data organization as well as data content. Thus, such solutions commonly require clusters of more than 100 processors to achieve reasonable results.

IO Informatics has developed a new technology for data access, management and search across applications and database boundaries. Using intelligent objects in combination with vector access methods to organize and search data reduces the time to 1% or less compared to conventional; methods, even when using a single workstation or laptop.

The first product applies this technology to 2-D electrophoresis. It combines image acquisition, analysis, calibration and experiment tracking in a secure regulatory compliant manner. Spot detection, auto-landmarking, 3D deconvolution and multi-parametric normalization are easy and reliable, providing the base for normalized comparisons and knowledge building from global resources. The desktop solution provides any-to-any connectivity to facilitate cross-database searches from any accessible data source, including structural, functional, bioassay data, leading to rapid identification and annotations.

AUTHOR Biography:

Dr. Gombocz is VP, CSO and one of the founders of IO Informatics. He has over 25 years experience in research, laboratory automation and LIMS data management, has written 57 publications, 27 application notes and holds currently 24 Biotechnology- and 18 software-related patents. Considered an international expert in Separation Science and bioinformatics, he has over 20 years programming experience in instrument control, database design, scientific algorithms and software architecture. Dr. Gombocz received his degree in Analytical Biochemistry and Computer Science from the Technical University of Vienna (Austria).