VALIDATION OF NOVEL PROTEIN KINASE TARGETS AND DEVELOPMENT OF NEXT GENERATION PROTEIN KINASE INHIBITORS USING ProQinase's INTEGRATED TECHNOLOGY PLATFORM PROTEIN KINASES

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ProQinase has developed an Integrated Technology Platform Protein Kinases for the identification and validation of novel protein kinases as well as the development of protein kinase inhibitors for cancer treatment. Target identification strategies include differential proteomics and cDNA chip approaches using matched samples from human tumor patients. These strategies have led to the identification of more than 50 up-regulated protein kinase sequences in human colon cancer samples. 10 sequences were chosen for further therapeutic validation based either on novelty of sequence or undocumented involvement in human cancer. Novel protein kinase sequences are clinically validated by immuno-histochemical and large scale cDNA chip analysis. Additionally, kinase sequences are therapeutically validated in animal models specifically designed for interfering with protein kinase activity and/or expression in established tumors in mice. These models have been successfully established using protein kinase sequences known to be involved in cancer initiation or progression. Data will be shown for both target identification and validation approaches.

An overview will be given on the Integrated Technology Platform Protein Kinases and its applicability for drug discovery and development. Specifically, updated information will be given on available recombinant protein kinases (52 as of March 2003), protein kinases in development (148 as of March 2003), data of compound profiling exercises using compounds in pre-clinical and clinical development, cellular and in-vivo model systems for testing of compounds. Updated information will also be given on ProQinase’s and its partners’ internal drug discovery projects aiming at identification and development of novel protein kinase inhibitors for cancer treatment.