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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health



**National Institutes of Health Commercialization Assistance Program
(NIH-CAP)**

Company Overview

Industry Sector: Biotechnology Instruments and Pharmaceuticals

Company Overview: Caldera Pharmaceuticals produces label-free XRpro® equipment. XRpro® uses x-ray fluorescence to measure functional and binding assays for drug-protein interactions. Caldera was founded in 2005, and has won multiple national awards including an R&D100 award and Federal Laboratory Consortium awards. Caldera has successfully completed two rounds of financing (2006 and 2011) and has been profitable for several years.

Target Market(s): Small and large pharmaceutical, proteomics, and sensor companies worldwide. Caldera performs in-house services and also sells drug and biomarker discovery instruments and assays, novel drugs, biomarkers, sensors, and affinity reagents. We work directly with customers to develop assays for difficult targets with their drug libraries or ours.

Management

Leadership:

Benjamin P. Warner, CEO. Ph.D., Medicinal Chemistry, MIT. Serial entrepreneur, co-developed technologies that formed four companies. More than 20 years experience in pharmaceuticals, patenting, and marketing. Inventor on >25 patents; all granted patents have been licensed.

Lori Jo Peterson, Chief Operating Officer. MS, Genetic and Molecular Medicine; MPH, Epidemiology. More than 20 years experience in disease etiology, biomarkers, and clinical trials. Previously with National Cancer Institute, American Cancer Society, HQ Centers for Disease Control and Prevention, MD Anderson, and Fred Hutchinson Cancer Center.

Key Searchable Terms: drug discovery, high throughput, label-free, biomarker, sensor, affinity capture, antibodies

Key Value Drivers

Technology*: XRpro® is the first completely label-free, high throughput, full elemental analysis for the drug and biomarker discovery industry. Caldera has used XRpro® to develop a suite of new medicines, biomarkers, sensors, and affinity capture reagents.

Competitive Advantage: Easy-to-use XRpro® analysis means better and less expensive data. No dyes, antibodies, or radioactivity, saves ~\$500K/month in reagent costs for an immediate return on investment. XRpro® performs 2,000,000 measurements each month and quantifies multiple elements simultaneously, resulting in millions of data points, at pennies per assay. Screening can be performed with *in vivo*-mimic conditions; complex assay matrices do not attenuate the output, as with optical fluorescent dyes.

Plan & Strategy: Caldera markets XRpro® instruments jointly with a global equipment company under an OEM arrangement, sells drug candidates and biomarkers after preclinical testing, and performs in-house services.

*Technology funded by the NIH and being commercialized under the NIH-CAP

Product Pipeline

Available for sale and in-house service

ASSAYS:

- Functional (kinases, proteases, antibody substitutes)
- Binding
- Post-translational modifications
- Cell-based
- Ion Channels

PRODUCTS:

- Therapeutics (antibiotics, metal chelators, kinase inhibitors)
- Affinity capture reagents
- Sensors and POC diagnostics
- Biomarkers and Diagnostics (MRI contrast agents, heavy metals)
- XRpro® services and instruments

Better data with dramatically reduced assay costs

