



A Pharmaceutical Contract Support Organization

Renato Cardoso, Ph.D.
Senior Research Scientist
Genetic Toxicology Department

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- Nucro-Technics and Anaxomics have formed an alliance to develop an assay that will be perceived to be very valuable to the biopharma client community in determining the toxicity of a compound at the pre-clinical stage.
- The formation of this alliance has been supported by National Research Council's Industrial Research Assistance Program (Canada) and Centre for the Development of Industrial Technology (Spain).



Overview of Nucro-Technics

- **Nucro-Technics is a full service Pharmaceutical Contract Research Organization (CRO);**
- **Established in 1970;**
- **Located 15 Km from Downtown Toronto;**
- **Staff of 135 scientific and support-personnel;**
- **Wide array of clients including 9 of the 10 biggest pharmaceutical companies in the world;**
- **Audited by the FDA, Health Canada, ISO 9001:2008;**



Nucro-Technics Services

Genotoxicity
Studies

Preclinical
Studies

Bioanalytical
Studies

Regulatory
Affairs
Consulting

Release
Product
Testing

- **Covers every stage of the drug development process prior to, as well as after, clinical trials.**
- **Outsourcing much of the drug research & development work is more cost-effective.**

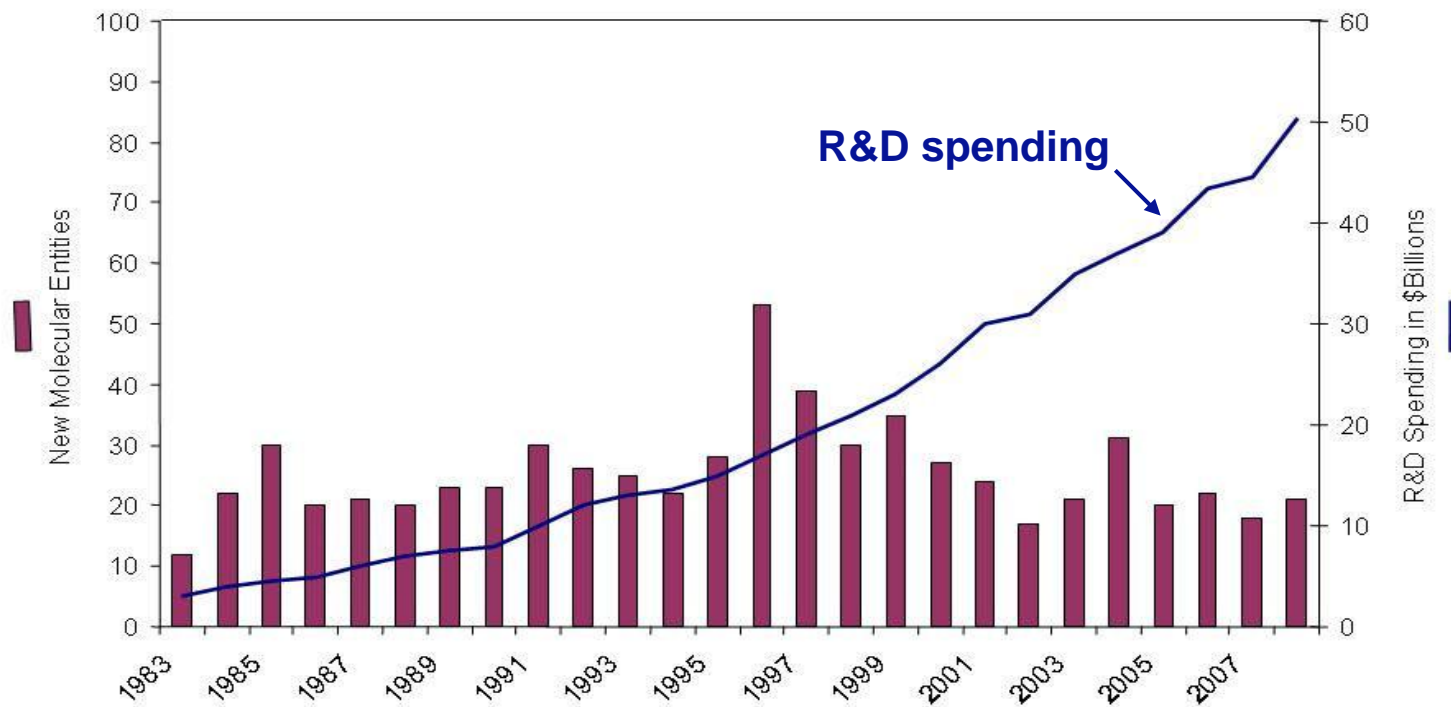
The low rate of accuracy in preclinical testing negatively impacts biopharma industry's financial results.

With a few exceptions, the number of New Molecular Entity (NME) output has essentially been constant for the past 50 years.

Research costs are increasing yearly.

Drug patent cliff is a major problem for biopharma.

There is an urgent need for improving the R&D processes.



While research costs are increasing yearly, the number of NMEs approved for commercialization remains constant.

Market opportunity

Type of Market	Date Range	CAGR	\$ in Bil
Lead Optimization	2009 - 2014	15.0%	1.98 - 4.0
Early ADMET/Tox	2009 - 2014	20.3%	1.14 - 2.88
Biomarkers - Services	2009 - 2014	22.2%	2.55 - 6.97
Biomarkers Pre & Post Clinical	2009 - 2014	24.5%	1.33 - 3.97

It is estimated that from \$11.8 B spend on pre-clinical phase, up to \$10.6 B (90%) is spend on compounds that will fail on the drug development process. This is a high penalty to pay for not detecting which compounds will fail on later stages of this process.

Nucro-Technics and Anaxomics management teams believe that a profitable niche market can be secured by providing an assay that is very valuable to the biopharma community in determining the toxicity of a compound at the pre-clinical stage.



Nucro-Technics' R&D goals

1) Increase productivity of biopharmaceutical clients' preclinical research and development.

2) Develop assays that are perceived by the biopharma client community as extremely valuable for the success of the drug development process.

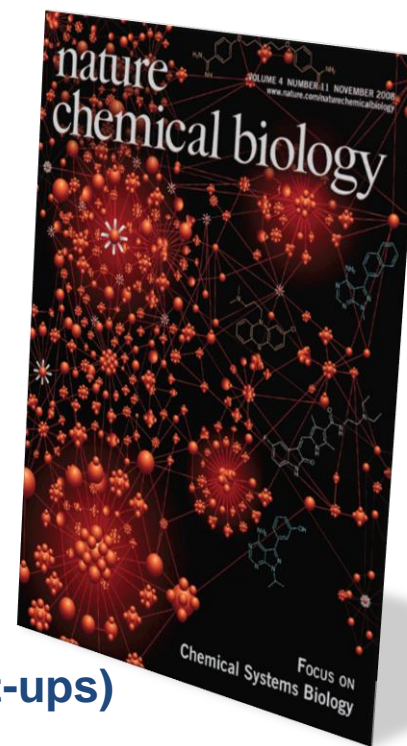


Jordi Naval, MSc, Founder and CEO
jordi.naval@anaxomics.com

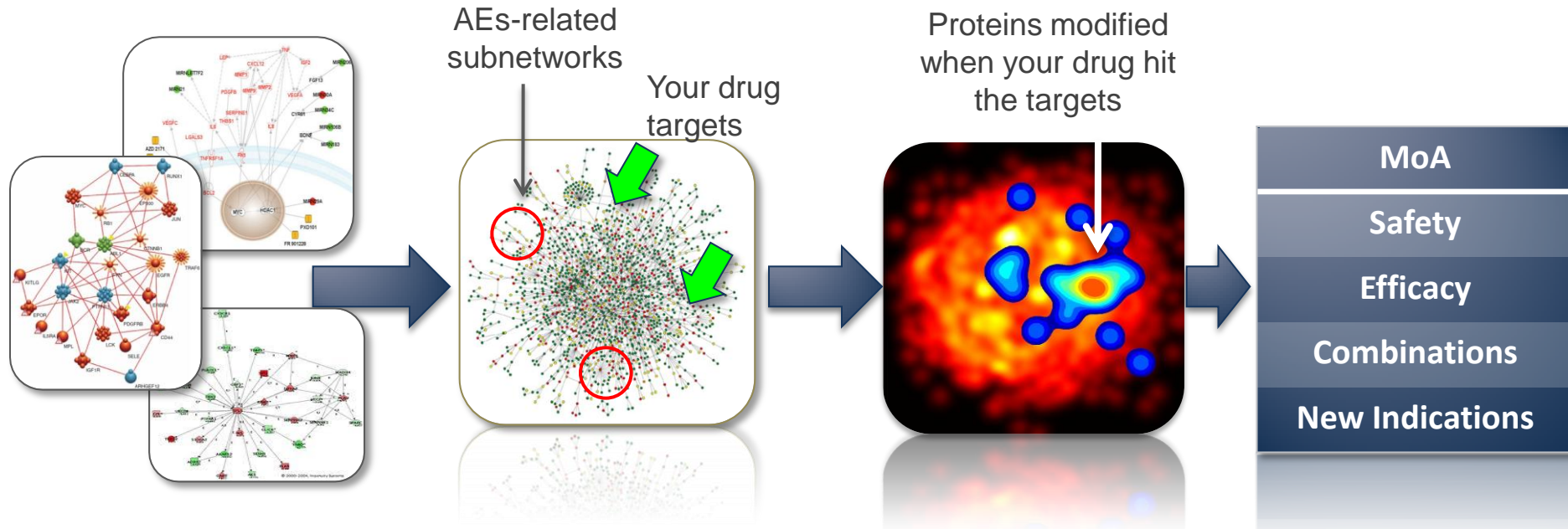
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Anaxomics Profile

- **Founded in 2007 – Private capital**
- **20 Experts (Health, IT, Artificial Intelligence)**
- **Based in Barcelona and Lausanne**
- **Applying Systems Biology to Drug Discovery**
 - **Understanding the MoA of drugs**
 - **Evaluating Clinical Safety profile of new compounds**
 - **Finding new indication for existing molecules**
- **Our Clients:**
 - **European & American Biopharma (big, medium, start-ups)**
 - **VCs and Investors (due diligence processes)**
- **Therapeutic Performance Mapping System - Proprietary technology, permanent R&D**



Systems Biology in Drug Therapeutic Performance



Mine Pathway DB to Create Disease Map
Signaling, Metabolic, Interaction Data

Locate Drug Targets and Molecular Effectors of Safety

Train the network to predict known MoA and "Hot Spots"

Use the Network to answer your questions

The Canadeka Program

Objective:

- Promote, assist and fund the development of joint technology cooperation projects between companies from Canada and Spain in areas of mutual interest for the purpose of generating economic benefits for both Canada and Spain.

Nucro-Technics / Anaxomics Canadeka Collaboration

Purpose:

- To develop a novel fee-for-service screening assay to evaluate the potential safety of new drug candidates

Approach:

- Anaxomics is conducting in-silico assays to uncover safety biomarkers for the characterization of new compounds' safety potential
- Nucro-Technics is conducting the in vivo testing of the uncovered safety biomarkers



Nucro-Technics / Anaxomics Canadeka Collaboration

Expected Results:

- A highly accurate and cost-effective tool to help companies make educated decisions during the drug development process in selecting compounds that will meet the necessary safety requirements.



Nucro-Technics / Anaxomics Canadeka Collaboration

Other Outcomes / Synergies:

- Opening new markets (Europe – North America);
- Accelerating importance of open innovation
Today's companies rely on networks with external partners to improve the performance of their R&D departments.
- Drug developers are increasingly pursuing more complicated diseases... This trend requires novel approaches to drug development.



Contact Information

Nucro-Technics is interested in developing a biomarker-based assay for in-vivo toxicity prediction.

Nucro-Technics is seeking new partners to collaborate on R&D projects. If you are interested in collaborating in the capacity of a technology provider or technology user contact us.

For any enquiries about R&D opportunities, please contact:

**Dr. Renato Cardoso, Ph.D
Senior Research Scientist
Telephone #: (416) 438-6727 ext. 354
E-mail: cardoso@nucro-technics.com**



Company Information

Nucro-Technics
2000 Ellesmere Road, Unit #16
Toronto, Ontario
M1H 2W4
Canada

Website:
<http://www.nucro-technics.com>

Mr. John C. Fanaras
President
Telephone #: (416) 438-6727 ext. 232
E-mail: fanaras@nucro-technics.com

Mr. Constantine Fanaras
Marketing & Technical Affairs
Telephone #: (416) 438-6727 ext. 284
E-mail: cfanaras@nucro-technics.com