

# *Partnering with CNIO* Academic Drug Development



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**Director of Innovation**

# The **Drug Development** pipeline at CNIO-ETP

Intellectual  
Property  
Generation /  
Protection



TARGET IV  
ASSAY  
DEVELOPMENT

HTS  
HIT IV  
HIT GENERATION

HIT  
TO LEAD  
EXPLORATION

LEAD  
OPTIMIZATION

IN VIVO  
PROOF OF  
CONCEPT

PARTNERSHIP  
ASSISTANCE

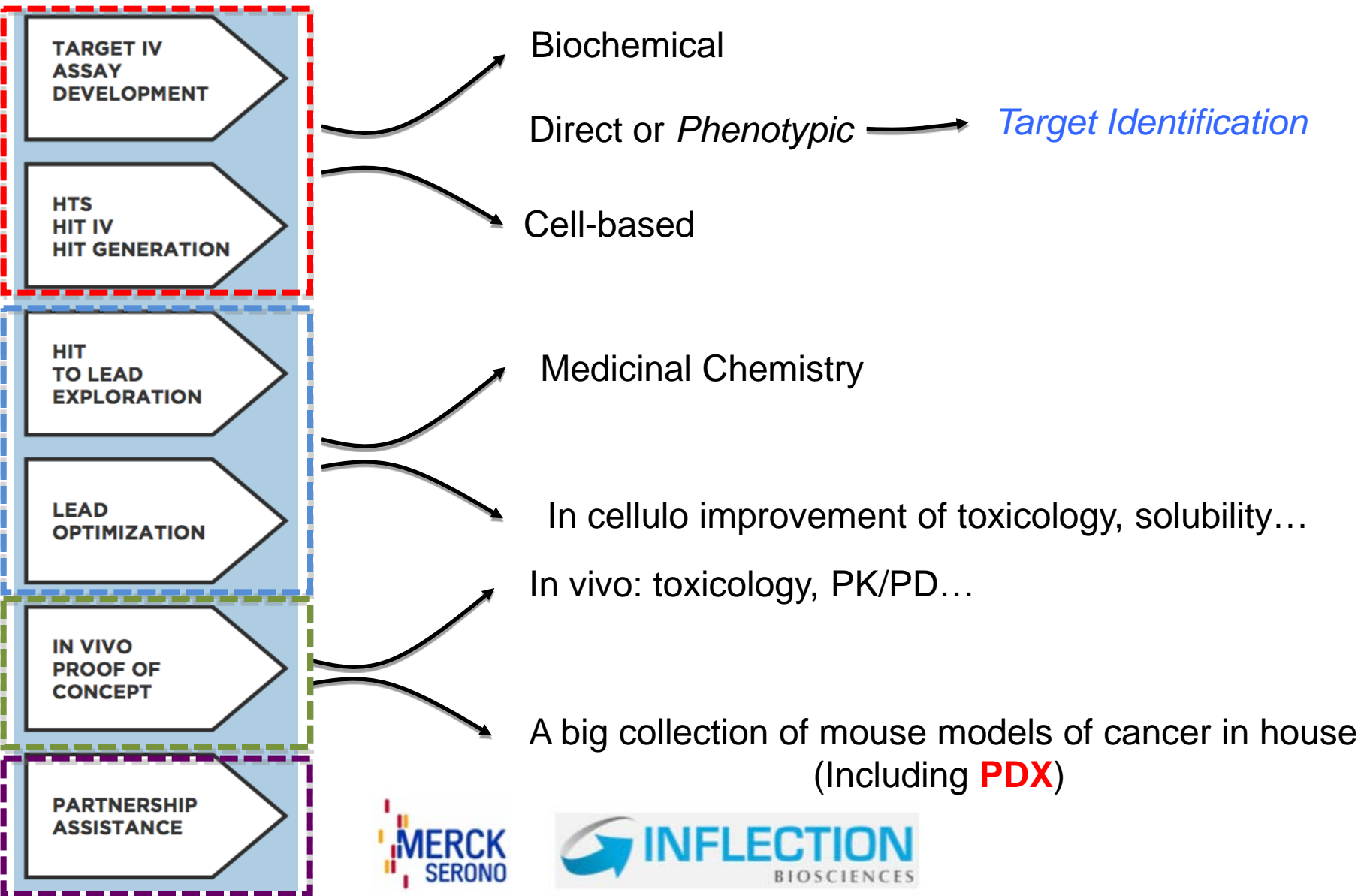


Small  
Molecules

3 Assets  
Partnered

Candidate  
expected to  
Phase I

# The Drug Development pipeline at CNIO-ETP



# Hit Generation



Collection of **50.000 cmpds** in house  
+ 1.5K of approved drugs (Repositioning)

**REPRESENTATIVE SETS**

800 cmpd

5K cmpd

10K cmpd

50K cmpd



# LEAD OPTIMIZATION



TARGET IV  
ASSAY  
DEVELOPMENT

HTS  
HIT IV  
HIT GENERATION

HIT  
TO LEAD  
EXPLORATION

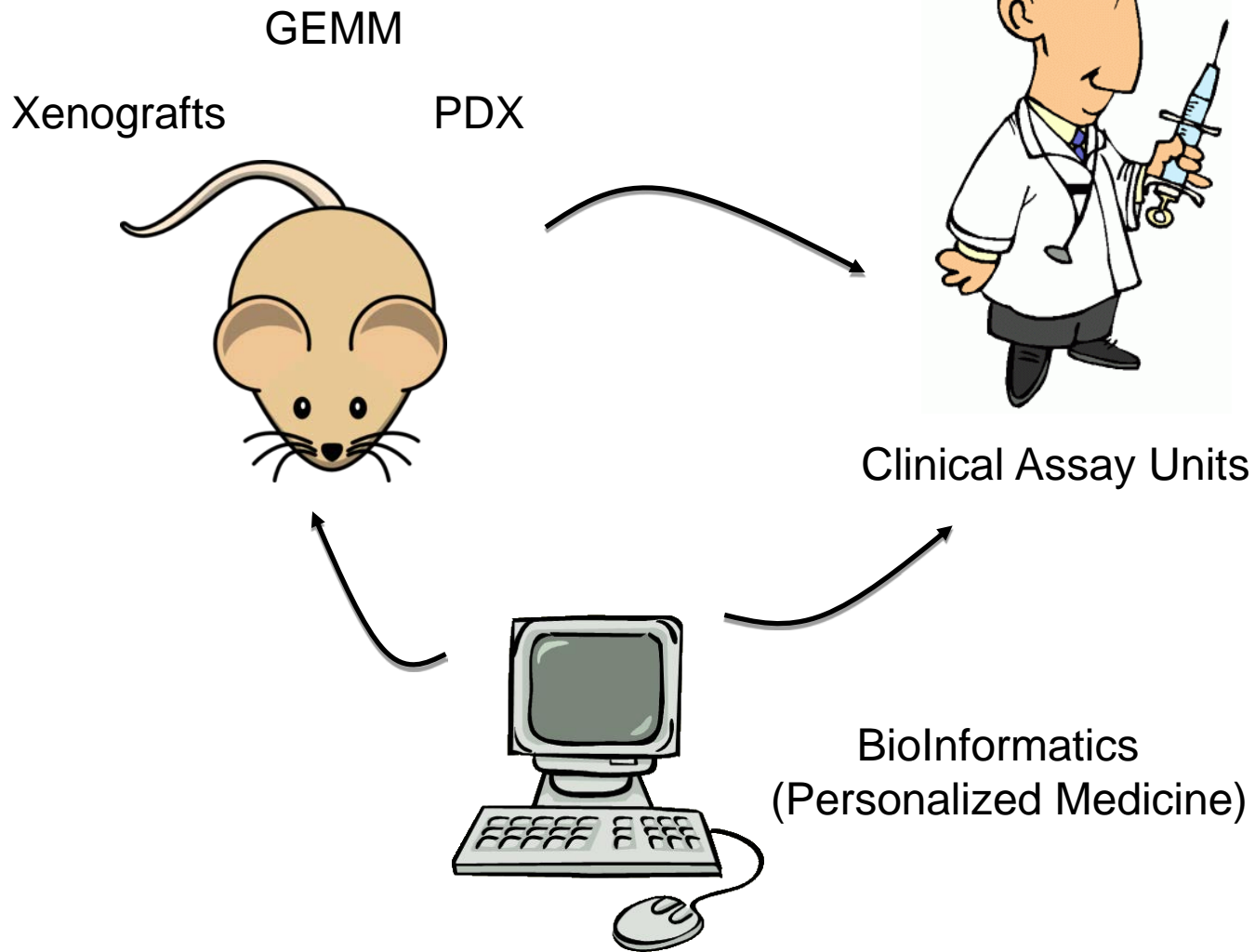
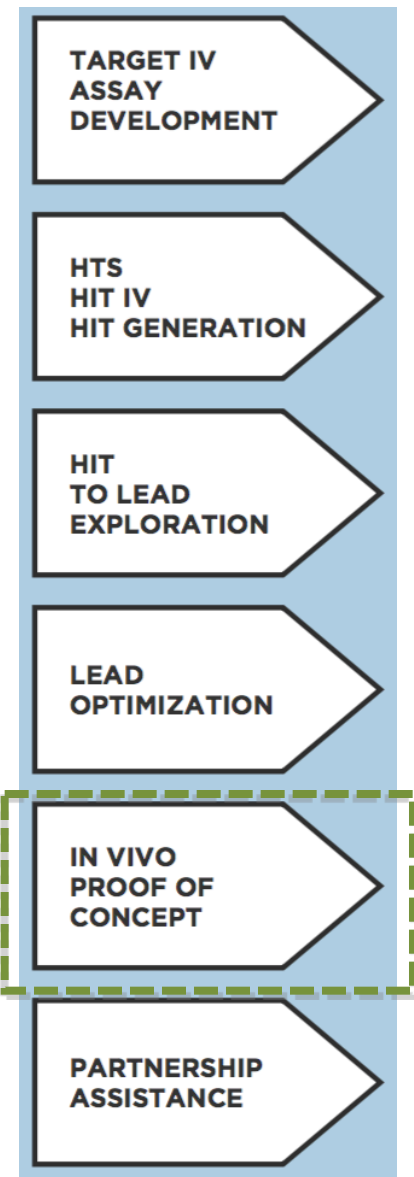
LEAD  
OPTIMIZATION

IN VIVO  
PROOF OF  
CONCEPT

PARTNERSHIP  
ASSISTANCE

A group of 10 experienced drug developers  
(medicinal chemists, pharmacology, ADMET, etc...)

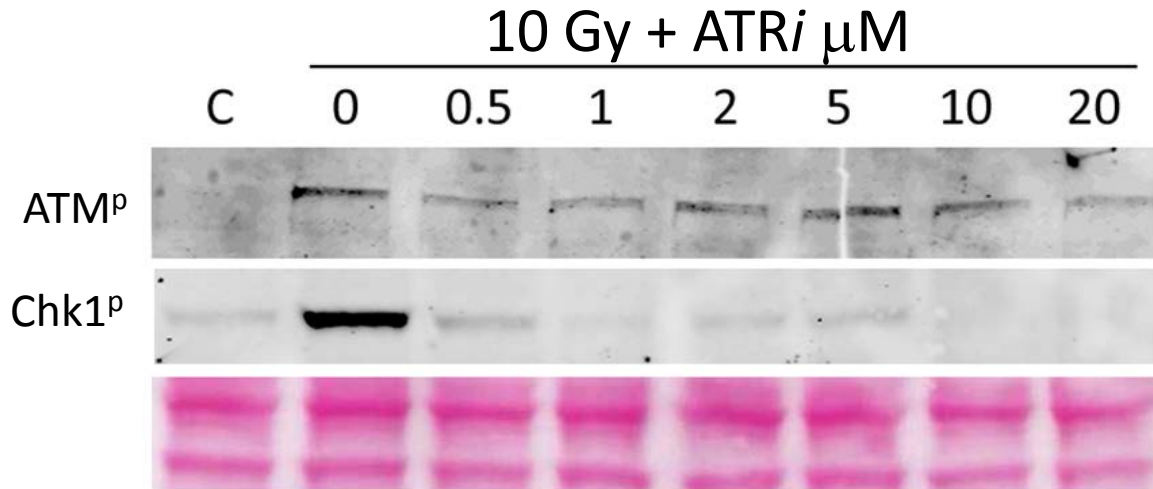
# PRECLINICAL WORK



# Proof of Concept: **ATR inhibitors**



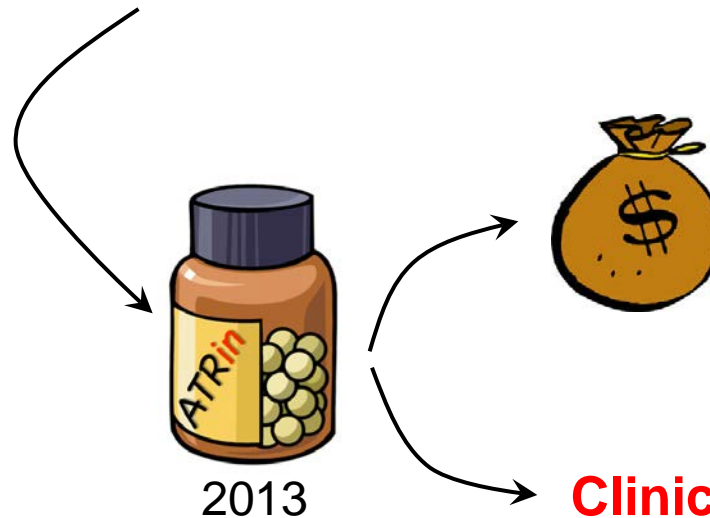
# Development of ATR *inhibitors*



TOLEDO ET AL NATURE STRUCT MOL BIOL (2011)

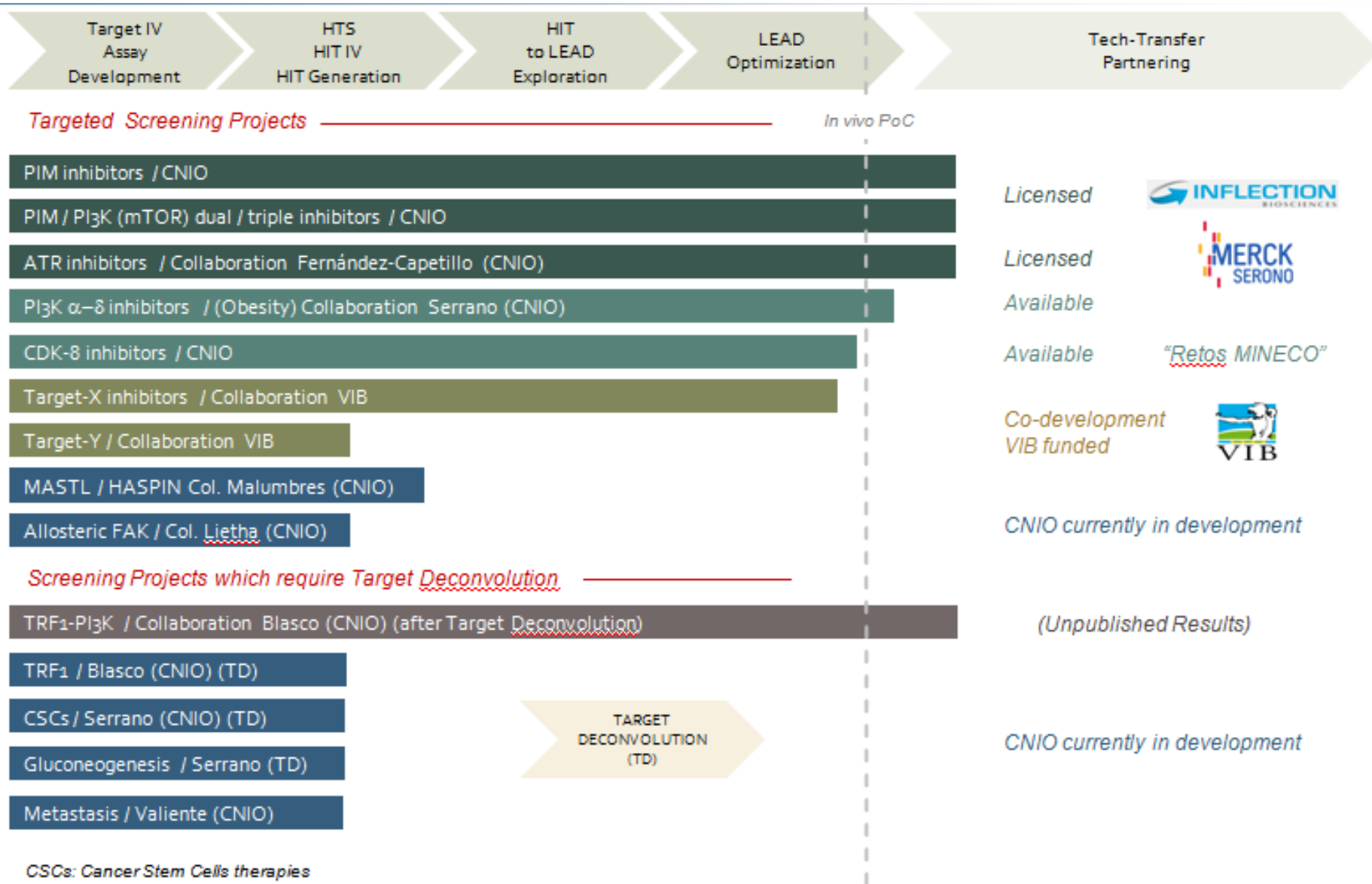
Sent to > 50 laboratories around the world

We provided the Synthesis protocol as Supp Information





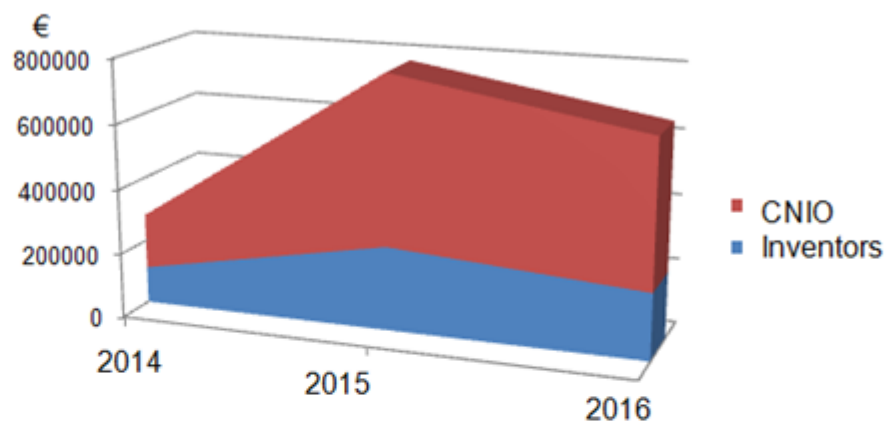
# CURRENT PORTFOLIO of CNIO Drug development



# COMERCIALIZACION: ROYALTIES

## ✓ Ingresos por Regalías. Progresión últimos 3 años

*“En los últimos 3 años los ingresos por regalías ha experimentado un incremento significativo”*



## ✓ Distribución Regalías

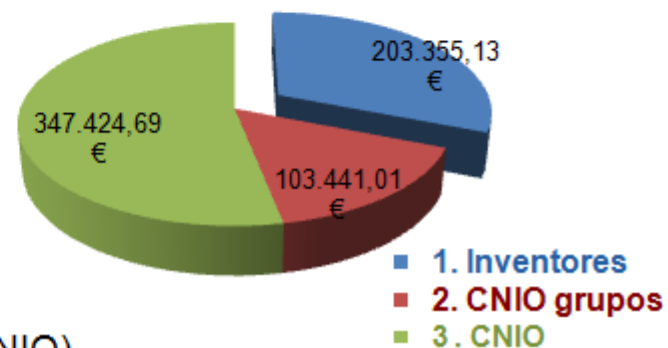
*“Un incentivo a las actividades de innovación en el CNIO”*

### ✓ CNIO:

✓ Institución y

✓ Grupos de Investigación: **11** grupos

✓ Inventores: **44** (>10% de los investigadores del CNIO)

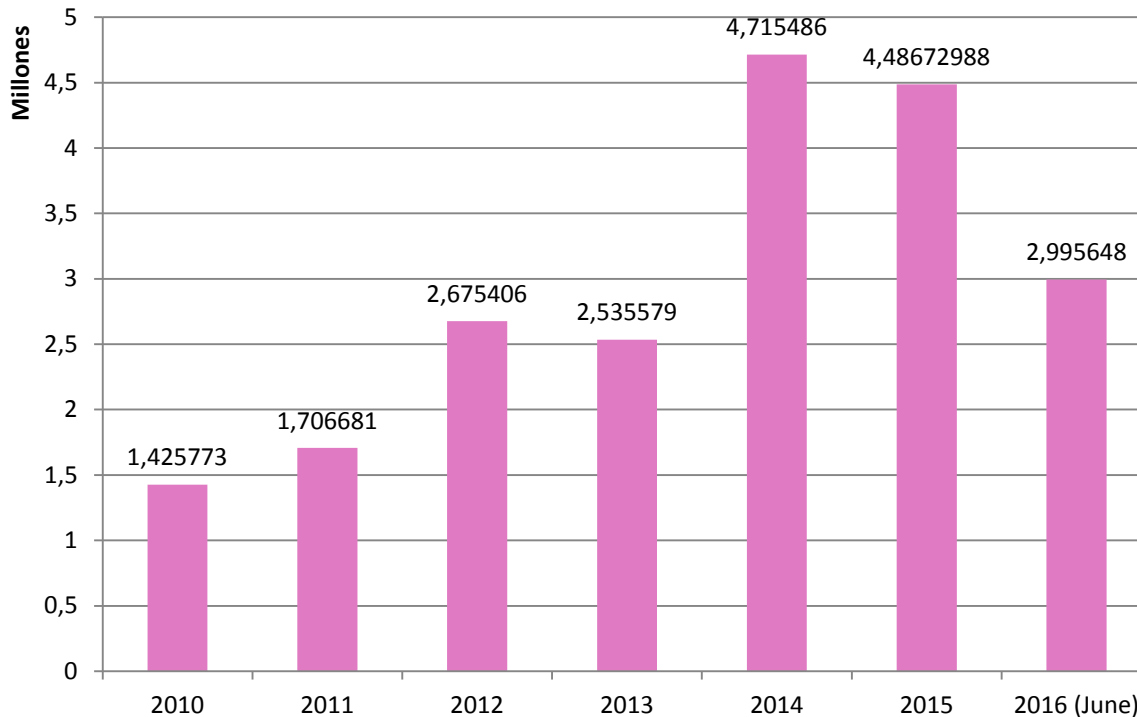


# SOLID EXPERIENCE in contracts with Industry

**2015:** Significant increase (~2 X) in the number of collaborations with Industry (from 10 to 20). (Agreements with Boehringer Ingelheim, Merck KGaA, Daiichi Sankyo...)

**4.5 M. €** in contracts with Industry in 2015  
(2.9M€ until June 2016)

Investigación Colaborativa c/ Empresas



Lilly



Partner académico

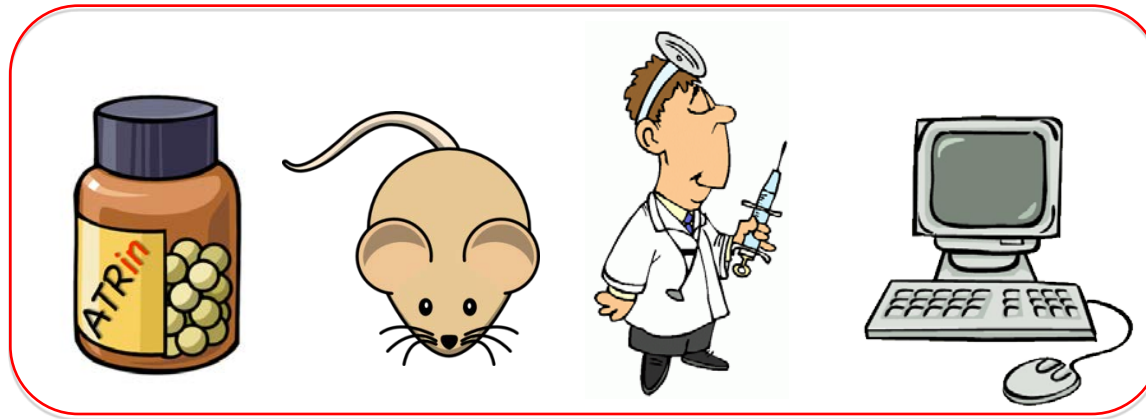
# INTERACTION/COLLABORATION MODEL AT CNIO



INDUSTRY



ACADEMIA

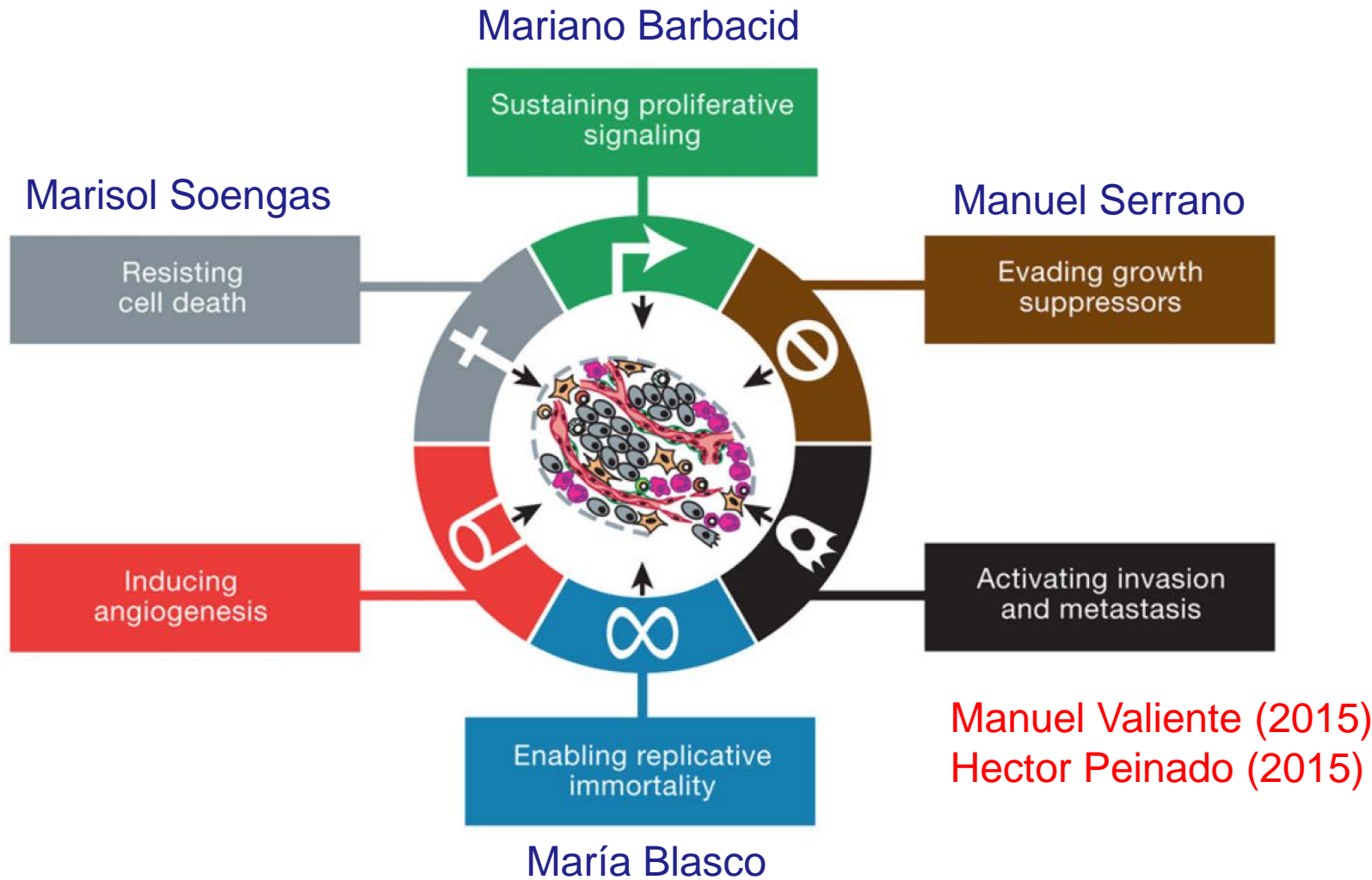


CNIO

The projects and collaborations need to be of mutual interests. The working model is based on sharing risks and IP.

MEDICINAL-CHEMISTRY  
DRUG-DEVELOPMENT  
PDX  
MOUSE-MODELS  
CANCER  
CLINICAL-UNIT  
AVATAR  
AGING  
BIOINFORMATICS  
GEMM

# Fortaleza en **investigación oncológica**



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