Chagas Drug Discovery

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Chagas Plataforma
Rio de Janeiro, 7\textsuperscript{th} June 2016
6th June Discovery Workshop

- The Path to a Candidate: A multidisciplinary Effort and a lot of Hurdles (Eric Chatelain, DNDi)
- Chemical Matter: the Good, the Bad and the Ugly (Luiz Carlos Dias, UNICAMP)
- *In vitro* screening assays: HTS/HCS and secondary assays (Carolina Borsoi-Moraes, LNBio)
- Drugs for Chagas and Leishmaniasis from a translational medicine perspective (Facundo Garcia Bournissen, Hospital de Ninos, Argentina)
- Exploring drug efficacy in experimental Chagas disease using highly sensitive bioluminescence imaging (John Kelly, LSHTM)
- Discovery of biomarkers for diagnostics and treatment efficacy assessment: from the “eye” to the –omics (Momar Ndao, McGill University)
Chagas landscape/ DNDi activities 2016

Research » Translational » Development

Screen | Hit to Lead | Lead Opt. | Pre-clinical | Phase I | Phase IIa / PoC | Phase IIb/III | Registration | Implement

GSK Tres Cantos
Chagas vaccine Sabin
GNF/UCSF
Eisai/Broad
Celgene

Anacor U. Georgia

GSK Dundee

U. Washington

Pediatric Nifurtimox (Bayer)
Adult Benznidazole (ELEA)

BENEFIT
Posaconazole (Merck)

Fexinidazole
New Benznidazole regimens and combinations

LMPH LSHTM Swiss TPH
IPK Dundee Eskitis
GSK Tres Cantos
LNBio IFSC/LOLA

Celgene series
GSK Box series
AbbVie
Merck
Biomarkers

DNDi only
DNDi in collaboration
other
Still A Gap …

- Dealing with complex issues/challenges
  - Drug Discovery & Development: lots of hurdles along the journey → Attrition
  - Complex parasite
  - Complex disease with still a lot of unknown
  - Not enough clinical research data (with new candidates) feeding back into discovery/non-clinical process
  - Issue of biomarkers for treatment efficacy assessment
Making Progress

• New *in vitro* Assays; moving towards standardization and efficient screening cascade
• Tackling translational challenges: *in vivo* models predictive of outcome in clinical trials
• Moving toward more systematic PK/PD assessment with new compounds
• New technologies for the ID of potential markers of treatment efficacy
• Building of innovative partnerships and capacity in endemic countries (NTD booster, LOLA)
But …

- Need for more Research
- Need for even more Synergy and Sharing between Initiatives/Groups to avoid duplication, do the “right” things
- Maybe (re)-define/(re)-think R&D Priorities for Chagas disease and act accordingly
Pulling Together to Overcome Hurdles