



**New tools for monitoring drug resistance and
treatment response in Visceral Leishmaniasis in
the Indian subcontinent**

ACRONYM: KALADRUG-R

Leishmaniasis: a serial killer (> 70,000/yrs)



Picture by A. Bryceson

Leishmaniasis: a story of poverty (2,4 million DALYs)

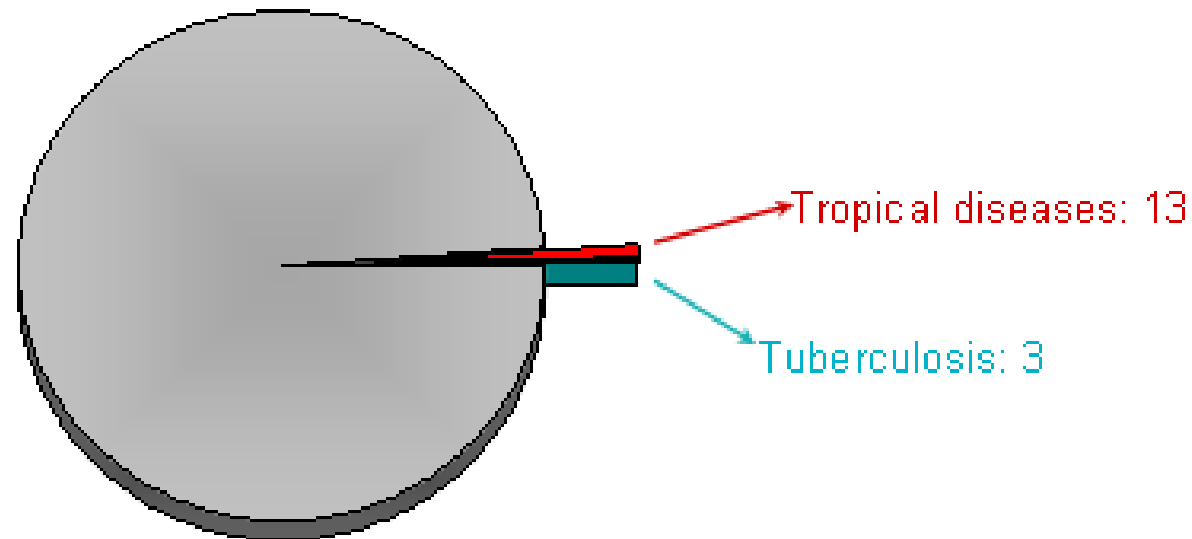


Picture by S.Decuyperre

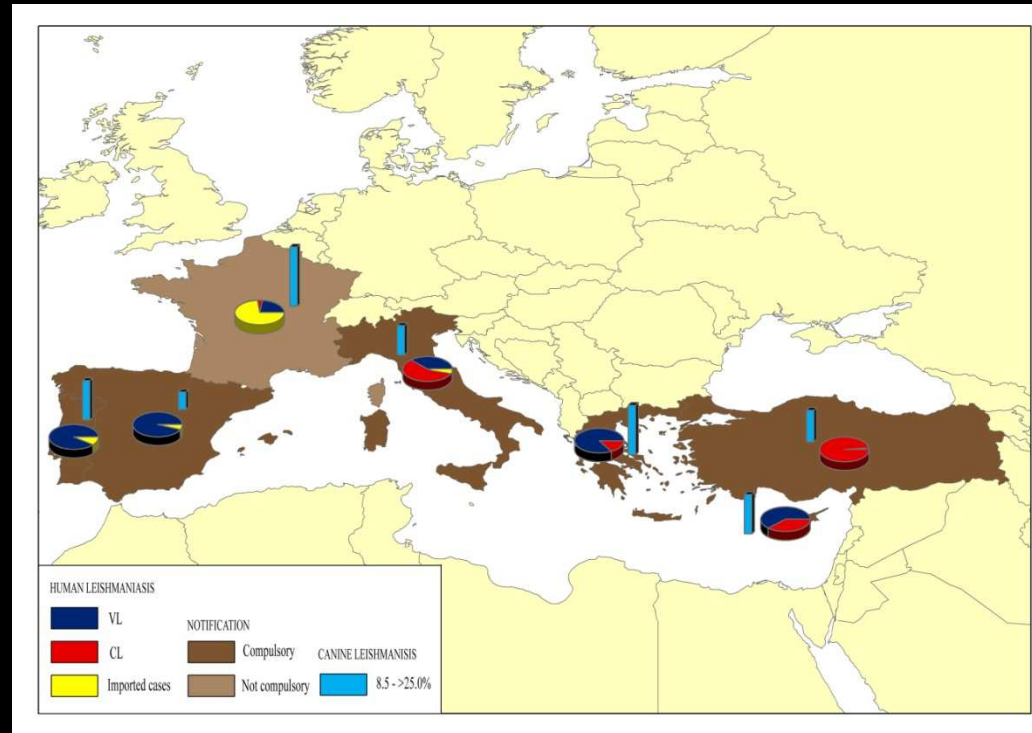
Leishmaniasis: a story of neglect

**Only 1% of new drugs developed
are for neglected diseases**

1975-1999: **1393** new chemical entities marketed



Leishmaniasis: also a European story



Spread of Vector-borne Diseases and Neglect of Leishmaniasis, Europe

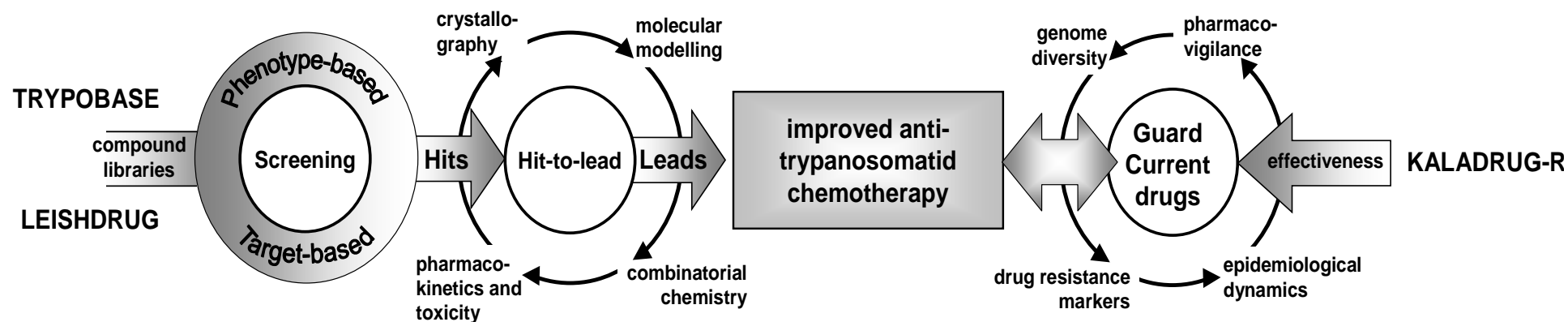
Jean-Claude Dujardin,* Lenea Campino,† Carmen Cañavate,‡ Jean-Pierre Dedet,§ Luigi Gradoni,||
Ketty Soteriadou,# Apostolos Mazeris,** Yusuf Ozbek,†† and Marleen Boelaert*



Picture by Dr F.Chappuis

Collaborative actions in anti-trypanosomatid chemotherapy with partners from disease endemic areas

Jean-Claude Dujardin, Dolores González Pacanowska,
Simon L. Croft, Ole F. Olesen, and Gerald F. Späth
Trends in Parasitology, 2010, in press





Disease and Parasites (India and Nepal):
clinical samples and isolates from 2 cohorts of
patients treated with SSG and MIL



Phenotyping: unique collection of parasites
with variable susceptibility to SSG and MIL



Drug resistance markers

Epidemiological dynamics



Targeted studies:
candidate markers

Population genetics &
fitness studies

Global studies:
genome diversity

Mathematical modelling of
drug resistance



Translation of knowledge into
practical tools for surveillance



Dissemination: health authorities

Partners



Europe



Indian sub-continent



First success story (m18): integration



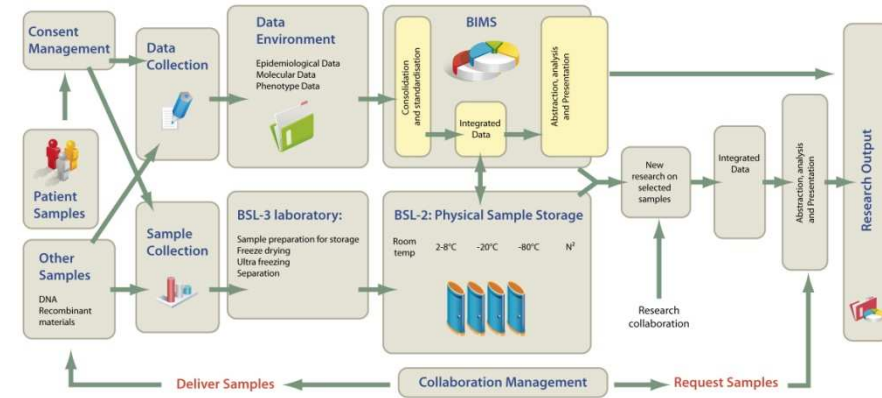
Group Comparison Data

Hide positions with association less than 1.00

View Data

23 items found, displaying all items.

Position	drug sensitive			Association	drug resistant			Annotations
	A	C	T		A	C	T	
corpg010543_10068	2	1.000	3	1.000	3	1.000	Gene: LmfP21_1100_HP_LINKchr_2Manual 01 74 1344 111 0 1 1344 E_v 0.0 1794	
corpg010945_18573	2	1.000	3	1.000	3	1.000	Gene: LmfP04_0850_rhomboid-liko_protinchr_4Manual 07 04 1049 310 154 1202 E_v 0.0 1834	
corpg01437_35643	2	1.000	3	1.000	3	1.000	Gene: LmfP36_4920_HP_CONchr_36Manual 94 00 1351 81 0 1 1351 E_v 0.0 2038	
corpg01702_10518	2	1.000	3	1.000	3	1.000	Gene: LmfP07_0805_phosphoacetylglucosamine_mutase-liko_protinchr_7Manual 93 81 1794 111 0 1 1794 E_v 0.0 2676	
corpg01772_65988	2	1.000	3	1.000	3	1.000	Gene: LmfP12_0320_HP_CONchr_12Manual 93 30 2588 172 0 2817 5394 E_v 0.0 3727	
corpg01953_20103	2	1.000	3	1.000	3	1.000	Gene: LmfP31_1320_HP_CONchr_31Manual 94 18 7700 436 3 1 7688 E_v 0.0 11684+04	
corpg01953_21629	2	1.000	3	1.000	3	1.000	Gene: LmfP31_1320_HP_CONchr_31Manual 94 18 7700 436 3 1 7688 E_v 0.0 11684+04	
corpg02112_11660	2	1.000	3	1.000	3	1.000	Gene: LmfP33_2080_HP_CONchr_33Manual 04 23 3460 181 1 83 3514 E_v 0.0 6287	
corpg02168_5370	2	1.000	3	1.000	3	1.000	Gene: LmfP35_4400_HP_CONchr_35Manual 97 01 621 13 0 1 621 E_v 0.0 1128	
corpg02202_4753	2	1.000	3	1.000	3	1.000	Gene: LmfP35_2910_HP_CONchr_35Manual 96 51 372 13 0 1 372 E_v 0.0 634	
corpg02215_3634	2	1.000	3	1.000	3	1.000	Gene: LmfP08_0560_protein_kinase_PUchr_8Manual 94 27 3854 203 2 2 3855 E_v 0.0 5903	
corpg02465_20833	2	1.000	3	1.000	3	1.000	Gene: LmfP02_0120_phosphatidylinositol_3_kinase-liko_protinchr_2Manual 93 15 1473 979 5 1 14718 E_v 0.0 2 1228+04	
corpg02692_8438	2	1.000	3	1.000	3	1.000	Gene: LmfP32_0940_HP_CONchr_32Manual 93 47 934 58 1 1 934 E_v 0.0 1364	
corpg02819_8646	2	1.000	3	1.000	3	1.000	Gene: LmfP31_2590_HP_CONchr_31Manual 94 48 2790 139 2 1 2790 E_v 0.0 4220	
corpg02856_12191	2	1.000	3	1.000	3	1.000	Gene: LmfP07_1030_peptidylprolyl_cis-trans_isomerasetransaminase_PUchr_7Manual 94 25 348 20 0 1 348 E_v 8e-151 531	
corpg03022_6342	2	1.000	3	1.000	3	1.000	Gene: LmfP19_1105_4-oxoacetate-coa_3-glyoxylate-liko_protinchr_19Manual 95 86 1812 75 0 1 1812 E_v 0.0 2997; Gene: LmfP19_0988	
corpg03111_15142	2	1.000	3	1.000	3	1.000	Gene: LmfP27_1770_HP_CONchr_27Manual 94 29 4659 242 4 1 4660 E_v 0.0 6071	
corpg03400_11635	2	1.000	3	1.000	3	1.000	Gene: LmfP29_0150_HP_CONchr_29Manual 96 64 2002 70 0 1 2002 E_v 0.0 3572	
corpg03429_62567	2	1.000	3	1.000	3	1.000	Gene: LmfP29_1330_senescence-inducing protein_kinase_PUchr_29Manual 95 05 1738 86 0 13 1750 E_v 0.0 2763	
corpg03708_2884	2	1.000	3	1.000	3	1.000	Gene: LmfP24_0140_erkyninTPR_repeat_protinchr_24Manual 95 95 1185 48 0 1 1185 E_v 0.0 1968	
corpg03742_516	2	1.000	3	1.000	3	1.000	Gene: LmfP30_1430_ama1_protein_PUchr_30Manual 89 36 376 37 1 152 527 E_v 2e-118 424; Gene: LmfP30_1410_ama1_protein	
corpg04173_1912	2	1.000	3	1.000	3	1.000	Gene: LmfP16_1660_HP_CONchr_16Manual 93 95 5408 327 0 7 5414 E_v 0.0 8080	
corpg04396_3514	2	1.000	3	1.000	3	1.000	Gene: LmfP23_0550_ubiquitin-activating_enzyme_E1_PUchr_23Manual 96 46 3185 111 0 1 3185 E_v 0.0 5293	



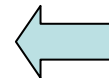
MapSeq/Ldonovani(BPK282c4)



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Mapping of
Leishmania
donovani Genomes
in Nepal





Guiding slide 1

How further stimulating international cooperation? Returning to the INCO concept? How strenghtening research on topics of 'low economic value', but with a high societal impact (like the Neglected Infectious Diseases)?



Guiding slide 2

How involving South-south collaboration in the cooperation schemes? At the same time, North-South partnerships should avoid the temptation to focus only on strong partner countries from the South, but should also consider weaker ones, where capacity strengthening would bring an added value.



Guiding slide 3

How involving researchers and other professionals from Europe and Third countries in priority setting (and evaluation) of EU research agenda? How promoting a bottom-up process?

Establishing a research agenda for neglected infectious diseases of Latin America: priority diseases, regional strengths and opportunities and cross-cutting issues

Jean-Claude Dujardin¹, Socrates Herrera², Virgilio do Rosario³, Jorge Arevalo⁴, Marleen Boelaert¹, Hernan Carrasco⁵, Rodrigo Correa-Oliveira⁶, Lineth Garcia⁷, Eduardo Gotuzzo⁴, Theresa Gyorkos⁸, Alexis M. Kalergis⁹, Gustavo Kouri¹⁰, Vicente Larraga¹¹, Pascal Lutumba¹², Maria Angeles Macias Garcia¹³, Pablo Manrique-Saide¹⁴, Farrokh Modabber¹⁵, Alberto Nieto¹⁶, Gerd Pluschke¹⁷, Carlos Robello¹⁸, Antonieta Rojas de Arias¹⁹, Martin Rumbo²⁰, Jose Ignacio Santos²¹, Shyam Sundar²², Jaime Torres²³, Faustino Torrico⁷, Patrick Van der Stuyft¹, Kathleen Victoir²⁴, Ole F. Olesen²⁵

PLOS-NTD, 2010, in press



Guiding slide 4

How promoting synergy between running activities (EU-funded or not)?

LeishRisk, Bridging Research and Leishmaniasis Control - Windows Internet Explorer

http://www.leishrisk.net/leishrisk/

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LeishRisk, Bridging Research and Leishmaniasis Control

LeishRisk

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www.LeishRisk.net

Welcome to the LeishRisk website.

LeishRisk is a EU-funded project which aims to:

- Network the EU-funded projects working on leishmaniasis under FP5, FP6 and FP7;
- Promote dissemination of their findings relevant for improved surveillance and control of leishmaniasis at a regional scale;
- Prepare future joined actions.

LeishRisk is a project of the [Sixth Framework Programme](#) of the [European Commission](#).

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news

LeishRisk supports the initiative to develop a VL Diagnostics Quality Assurance Network.

Download a report of the first consultation meeting [here](#).

Done

Internet 100%

start Network Connections others Leishrisk, Bridging Re... Microsoft Word KDR_Brussels_23041... NL 15:22



Guiding slide 5

How promoting synergy between research and education? Including explicit training component into the application format? Re-introducing capacity strengthening as an evaluation criteria?



Guiding slide 6

How simplifying administrative rules for the management of EU-funded projects?
Also taking into account bottom-up considerations of scientists.

nature

www.nature.com/nature

Vol 463 | Issue no. 7284 | 25 February 2010

Simplification is essential

The new European research commissioner deserves political support from member states of the European Union to drastically reduce the dead weight of Brussels bureaucracy.