

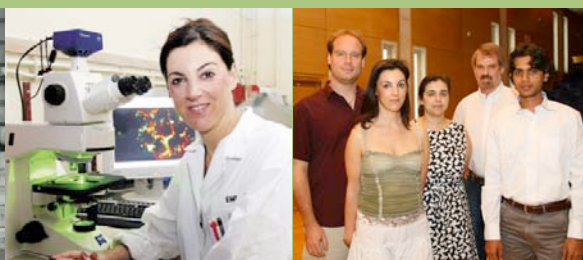
Curriculum vitæ, 2009



EMBO Course, Cape Town, 2005



Pasteur Inst, Paris, 2000



Workshop Host-Patogen interact., URIA-CPM and EMBL, 2006

1. Dados pessoais

1. Personal data

Elsa Anes, nasceu a 20 de Fevereiro de 1964. Licenciou-se em 1988 em Ciências Farmacêuticas, ramo de Análises Químico-Biológicas (opção C) pela Faculdade de Farmácia, Universidade de Lisboa. Em 1988 ingressou como Assistente Estagiária no Grupo de Ciências Biológicas da Faculdade de Farmácia, Universidade de Lisboa.

Born on 20 February 1964. Degree in Pharmaceutical Sciences in 1988. Lecturer at Faculty of Pharmacy, University of Lisbon starting in 1988.



Morada institucional Institutional address

Centro de Patogénese Molecular-URIA
Faculdade de Farmácia, Universidade de Lisboa,
Av.Prof. Gama Pinto
1649-003 Lisboa
PORTUGAL

Contactos

Contact data

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Endereço internet (url):
<http://www.ff.ul.pt/paginas/eanes>

<http://www.imm.fm.ul.pt/>
<http://www.ff.ul.pt/centros/uria/Home.html>

2. Formação académica

2. Academic degrees

Ano

Year

Grau académico

Academic degree

Instituição

Institution

Classificação

Classification

1998

DOUTORAMENTO/PhD

Faculdade de Farmácia/Univ. Lisboa

Aprovado com Distinção e Louvor

1992

PROVAS DE APTIDÃO PEDAGÓGICA E CAPACIDADE CIENTÍFICA

Faculdade de Farmácia

Aprovada com Distinção e Louvor

1988

LICENCIATURA/Graduation

Faculdade de Farmácia/ Univ. Lisboa

17 / Grade 17/20

3. Actividades anteriores e situação actual em termos científicos e/ou profissionais

3. Previous and current scientific and/or professional activities



Período/ Period/

**Cargo ou categoria/Position or category/
Instituição/ Institution**

2009-present

Professor Associado, nomeação definitiva /FFUL
Tenure track position: Associate Professor/ FFUL

2007

Foi aceite como Líder de Grupo /IMM-UL
Accepted as Research Group Leader /IMM-UL

2003-2009

Professor Auxiliar, nomeação definitiva /FFUL
Tenure track position: Assistant Professor/ FFUL

2002-2008

Investigador Principal / CPM-URIA/FFUL
Group Leader / CPM-URIA/FFUL

2000-2005

Investigador visitante/ EMBL-Heidelberg
Visitor researcher / EMBL-Ger

1992-2002

Investigador / CPM-URIA/FFUL
Researcher / CPM-URIA/FFUL

1998-2003

Professora Auxiliar, grupo de Ciências Biológicas
FFUL/ Assistant Professor at FFUL

1992-1998

Assistente, grupo de Ciências Biológicas
FFUL/ Lecturer at FFUL and PhD student

1988-91

Assistente estagiário , grupo Ciências Biológicas
FFUL

4. Área de actividade científica 4. Area of scientific activity



Até 2000/up to 2000

Genética de micobactérias e micobacteriófagos /
Mycobacterial and mycobacteriophage genetics

Após 2000 / after 2000

Biologia Celular e Molecular das interacções hospedeiro-patógene e desenvolvimento de novas terapias contra a tuberculose / **Cellular and Molecular Biology of host-**

pathogen interactions and the development of new therapies for tuberculosis.

5. Domínio de especialização

5. Domain of specialization

Microbiologia Celular/Cellular Microbiology

Actuais interesses de investigação

Present research interests

Biologia Celular da Infecção por micobactérias/
Cellular Biology of *Mycobacterium* infection
Novas terapias para a Tuberculose/ New therapies for tuberculosis
Genética de Micobactérias/Genetics of mycobacteria

6. Participação em projectos

6. Participation in research projects

FCT PIC/IC/82859/2007 (Investigadora Responsável)/PI

FCT: Colaboração bilateral SLO-PT 2008/2009 com o grupo de Tina Zavašnik Bergant, Instituto Jožef Stefan, Liubliana (Investigadora Responsável)/PI

Cotec, programa Cohitec para o melhor plano de negócios/Fundação Luso Americana, 2006 (membro de equipa)/Team member

FCT POCI/BIA-BCM/55327/2004 (Investigadora Responsável)/PI

EMBO ASTF 185b-05 fellowship 2005 (Investigadora Responsável)/PI

WHO-TDR, 2003 "Interactions of pathogenic mycobacteria with cells." (membro de equipa)/Team member

FCT POCTI/BCI/38983/2001 (Investigadora Responsável)/PI

EMBO ASTF9678 fellowship 2000 (Investigadora Responsável)/PI

CECF-FFUL, desde 2002 Desenvolvimento de Novos Fármacos para tratamento da tuberculose (em colaboração com Luís Constantino)/Team member

EU BIO2-CT92-0502 1993-1997 (membro da equipa)/Team member

JNICT 1988-1992 Desenvolvimento de vectores de clonagem para micobactérias (membro da equipa)/Team member

7. Experiência na orientação

7. Supervising experience

2008-2009, orientação pós-doc **Maria Luisa Jordão**/Supervising the Post-doc Maria Luisa Jordão (2008-2009)

Desde 2008, orientação de doutoramento de **Nuno Baltazar Carmo**/Supervising the PhD student Nuno Baltazar Carmo (since 2008)

Desde 2007, orientação de doutoramento de **Paulo Jorge Bettencourt**/Supervising the PhD student Paulo Bettencourt since 2007

2005-2009, orientação de doutoramento de **Bibhuti Bhusan Mishra**/Supervising the PhD student Bibhuti Bhusan Mishra (2005-2009)

De 2004-2008, orientação de doutoramento de **Maria Luisa Jordão**/Supervising the PhD student Maria Luisa Jordão (2004-2008).

Desde 2009, orientação de mestrado de **David Pires**/Supervising the Master Thesis of David Pires (since 2009).

Desde 2009, orientação de mestrado de **Marta Barroso**/Supervising the Master Thesis of Marta Barroso (since 2009)

De 2008-2009, orientação de mestrado de **Marta Filipa Simões**/Supervising the Master Thesis of Marta Filipa Simões (2008-2009)

2002-2003 orientação do mestrado de **Maria Luisa Jordão**/Supervised the Master Thesis of Maria Luisa Jordão (2002-2003).

Advanced Training in Lisbon of:

Maximilliano Gutierrez (PhD student Mendoza Argentina: 2 months in 2003)

Leila Staal (post doc at EMBL: March 2004),

Mariana Henriques (PhD student at the Univ. Minho: February 2004),

Ana Filomena Amaro (PhD student at National Laboratory of Veterinary Research, LNIV, July, 2004)

Maximilliano Gutierrez (Post-Doc EMBL: November, 2006)

Christopher Bleck (graduation thesis at EMBL EM facility: 1 month February 2007)

Daniela Fabrino (PhD thesis at Oswaldo Cruz Foundation, Rio de Janeiro, 3 months Sept-Nov. 2007)

Avinash Sonawane (Post-Doc EMBL: Feb-April, 2008)



Estágios e teses de licenciatura :Advance training and diploma thesis supervision of:

Paulo Alves, Fac. de Ciências e Tecnologia, 1998.

Ana Catarina Costa, Fac. Ciências da UL, 2002

Tiago Granja, Universidade Lusófona, 2003

Marta Filipa Simões, Universidade Lusófona, 2004

David Tomaz, Lic. Microbiologia Aplicada, Univ. Lisboa, 2007.

David Pires, Lic Microbiologia Aplicada, Univ. Lisboa, 2008.

8. Prémios e Distinções

8. Prizes and awards

2007 **Keystone Symposia Award** for participating in the "Tuberculosis: From Lab Research to Field Trials" (C6-2007)

2006 **Prémio Câmara Pestana** para o melhor trabalho em microbiologia

2006 **Prémio Cotec** (Associação Empresarial para a Inovação)/Fundação Luso Americana, iniciativa CoHitec para o melhor plano de negócios

com o projecto "Novo medicamento para o tratamento da tuberculose" PROFARMEX.

2005 **EMBO Award** ASTF 185b-05 European Molecular Biology Organization

2000 **EMBO Award** ASTF9678 European Molecular Biology Organization

9. Actividade docente

9. Teaching Activity



Pré-Graduação

Biologia Celular (coordenadora da disciplina desde 2005).

Laboratório de Biologia Celular (desde 2005).

Biologia Celular I (1988-2004, leccionou aulas teóricas, práticas e laboratoriais, responsável pelo funcionamento da cadeira entre 2000 e 2004).

Biologia Celular II (1988-2004, leccionou aulas teóricas, práticas e laboratoriais).

Imunologia (desde 2003 que colabora na cadeira de Imunologia, aula de imunologia na tuberculose).

Bioquímica da Morte Celular (2007-e 2008 colaborou na cadeira de opção com a aula Apoptose nas doenças infecciosas).

Cadeiras da Licenciatura em Ciências Farmacêuticas (até 2005), Mestrado Integrado em Ciências Farmacêuticas (após 2005).

Licenciatura em Ciências da Saúde UL (2007 e 2008). Biologia Celular.

Licenciatura em Microbiologia Aplicada UL (2007 e 2008). Microbiologia Aplicada.

Pós-Graduação

Curso Avançado de Genética Bacteriana, FFUL, 1990

Biologia Molecular; Curso de Especialização em Análises Clínicas, FFUL

Pre-Doc Course, EMBL, Heidelberg, Ger, 2000

Cultura Celular, Curso de Formação Pós-Graduada, CPM-FFUL



Microscopia Fluorescente e Técnicas de Marcação, Curso de Formação Pós-Graduada, CPM-FFUL

Microscopia Funcional Avançada; Curso de Formação Pós-Graduada, EMBO world Course

Interacção Hospedeiro-Patogene; Cursos de Formação Pós graduada, CPM, FFUL, e EMBL

Biologia Celular na tuberculose; Mestrado em Microbiologia Clínica, FMUL.

Endereçamento de fármacos para alvos celulares: aplicação às doenças infecciosas. Mestrado em Farmacotecnia Avançada-FFUL: Farmacotecnia Avançada III.

Estratégias de invasão e de sobrevivência de patógenos intra e extracelulares. Mestrado em Análises Clínicas- FFUL: Bacteriologia.

Mecanismos de imunidade inata à infecção. Módulo Microbiologia e Saúde do mestrado de Microbiologia Aplicada UL, 2009.

Organização/Participação de Encontros Científicos e de Cursos Avançados

Organization/Participation of Scientific Meetings and Advanced Courses

Mais de meia centena de seminários

Primeiro Congresso da Sociedade Portuguesa de Ciências Farmacêuticas, FFUL, 2003

Workshop Host-Pathogen Interactions and Cell Signaling, FFUL, 2003

Curso de Cultura Celular, FFUL, 2004

Curso de Microscopia Fluorescente e Técnicas de Marcação, FFUL, 2004

Black Forest Phagosome Meeting, Titesee and Waldau, Germany, 2005

JOINT EMBO | UNIVERSITY OF CAPE TOWN PRACTICAL COURSE

FUNCTIONAL MICROSCOPY OF hostpathogen INTERACTIONS

**November 18–30, 2005
Cape Town, South Africa**

Course language: English

TECHNIQUES

1. Basic light microscopy/Immunofluorescence
2. Time-lapse/video microscopy
3. GFP-double/triple label technology
4. RNAi screening by light microscopy
5. High content screening microscopy
6. Biochemical interaction microscopy (FRET, FLIM, FRAP)

TEACHERS

Elsa Anes
University of Lisbon, Portugal

Peter Bortz
EMBL, Heidelberg, Germany

Frank Buchholz
MPI for Cell Animal Studies, Germany

Katharine Denby
University of Cape Town, South Africa

Jacobs Krings Locker
EMBL, Heidelberg, Germany

Mark Konrad
EMBL, Heidelberg, Germany

Jens Rieddorf
EMBL, Heidelberg, Germany

David Russell
Cornell University, NY, USA

Ulrich Schaeuble
MPI for Infectious Diseases, Berlin, Germany

Anthony Squire
EMBL, Heidelberg, Germany

Liz van der Merwe
University of Cape Town, South Africa

ORGANIZERS

Philippe Bastiaens
EMBL, Heidelberg, Germany

Edith Elliott
University of Cape Town, South Africa

Gareth Griffiths
EMBL, Heidelberg, Germany

Isabel Parker
University of Cape Town, South Africa

Rainer Peppertok
EMBL, Heidelberg, Germany

Trevor Sewell
University of Cape Town, South Africa

REGISTRATION

There is no registration fee. The cost of accommodation and meals for the duration of the course will be sponsored by EMBO World-Africa and the University of Cape Town, South Africa. The requirements for the experience described in the website given below.

The number of participants is limited to 25.

Enquiries about the course should be addressed to world@embo.org.
Deadline for applications: July 24, 2005.

www.embo.org
/projects/world/meetings/capetown05.html

EMBO World Course on Functional Microscopy of Host Pathogen Interactions, África do Sul, 2005

Second Workshop Host-Pathogen Interactions and Cell Signaling, 2006

Organização do ciclo de seminários URIA-2007

URIA Workshop Mycobacterium Biology and Pathogenesis April 2009

Symposium URIA/IMM Host-pathogen interactions: strategies for therapeutic development Nov 2009

10. Outras actividades

10. Other activities

Árbitro de artigos científicos/ Scientific papers referee of

Tuberculosis

PLoS ONE (PLoS)

Microbes and Infection (Elsevier)

Microbial Biotechnology (Wiley-Blackwell)

Cellular Microbiology (Wiley-Blackwell)

Molecular Microbiology (Wiley-Blackwell)

Árbitro de projectos da Wellcome Trust/Wellcome Trust referee of projects.

Membro do Conselho Científico da FFUL

Membro do Conselho Científico da URIA-CPM

Membro da Assembleia de Representantes da FFUL (1996-2009)

Responsável do Sub-Grupo de Biologia Animal e Vegetal (2000-2004)

Membro de Sociedades e Associações Científicas: Sociedade Europeia de micobacteriologistas (desde 1988)

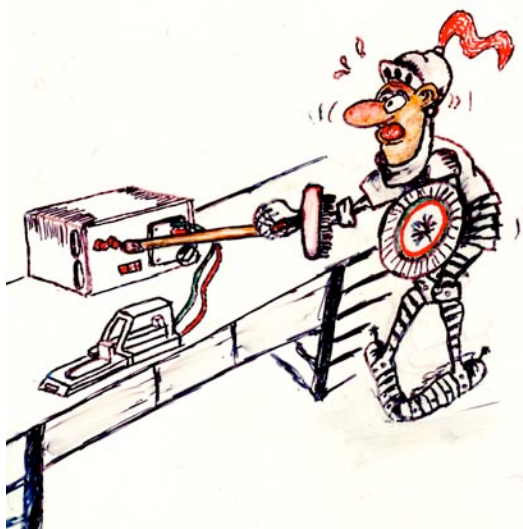
Sociedade Portuguesa de Microbiologia (desde 1997)

Sociedade Portuguesa de Genética (desde 1995)

Sociedade Portuguesa de Ciências Farmacêuticas (desde 2003)

Sociedade Internacional de Doenças Infecciosas (desde 2005)

Sociedade Portuguesa de Pneumologia (desde 2006)



11. Seminários e conferências

11. Seminars and conferences

Anes E, 1992. Insertion into the *M.smegmatis* genome of the *aph* gene through lysogenization with the temperate mycobacteriophage Ms6. Simpósio Nacional de Microbiologia Aplicada e Biotecnologia e 1^{as} Jornadas de Biologia de Leveduras Prof.Nicolau van Uden. Luso, Portugal.

Elsa Anes 1994. "Estudo genético do micobacteriófago Ms6 e relação fago-bactéria", seminário proferido na Faculdade de Farmácia da UL, 6/5/94

Elsa Anes 1996 "Organização genética e funcional do DNA do profago Ms6" seminário proferido na Faculdade de Farmácia da UL, 12/3/96

Elsa Anes 1997 "Recombinação em alvo específico em bacteriófagos temperados" seminário proferido na Faculdade de Farmácia da UL, 19/2/97

Anes E, 1997. Desenvolvimento de vectores integrativos baseados no sistema de recombinação do mycobacteriófago Ms6. Primeiro Encontro Nacional de Micobacteriologistas. Lisboa.

Elsa Anes 1998 "O sistema integrativo do micobacteriófago Ms6: papel da integrase na manutenção do profago", seminário proferido na Faculdade de Farmácia da UL, 18/3/98

Elsa Anes. 1998. Role of the integrase on the mycobacteriophage Ms6 site-specific recombination event. 19th Meeting of the European Society of Mycobacteriologists, Lisbon, Portugal.

Anes E., 2002. Manipulation of signalling networks regulating actin nucleation in the membrane of mycobacterial phagosomes arrest pathogen growth. Seminário Resistência em Tuberculose. Lisboa.

Anes and Griffiths, 2002. Manipulation of signalling pathways in the membrane of latex bead and mycobacterial phagosomes. Euresco conference Frontiers of Cellular Microbiology and Cell Biology. San Feliu de Guixols, Spain.

Elsa Anes, Mark Kuenhel, Gareth Griffiths. 2003. The role of lipid signaling in the membrane of mycobacterial phagosomes. Workshop Host-pathogen interactions and cell signalling. FFUL, 21.05 (Plenary Conference).

Elsa Anes. 2003. "Selected lipids activate phagosome actin assembly and maturation resulting in killing of pathogenic mycobacteria" Programme and Book of abstracts from Proceedings of the National Congress of Microbiology, MI-CRO'2003 C32, pag 148.

Elsa Anes 2003. "How to manipulate the phagosome actin assembly in order to control mycobacterial latency in infected macrophages" Programme and Book of abstracts from Chro-

nic Infections, Sociedade Portuguesa de Imunologia, XXIX Annual Meeting, pag 41. (Invited Plenary Conference)

Elsa Anes. 2004. "O citosqueleto e o tráfego intracelular" Seminário na FFUL URJA CPM, Fevereiro.

Elsa Anes. 2004. "Matriz extracelular e adesão. Uso de componentes da matriz para adesão de células a suportes in vitro. Adesão e diferenciação". Seminário na FFUL URJA-CPM Fevereiro.

Elsa Anes 2004. The roles of NFkB, P38 MAP kinase and actin in the intracellular killing of *Mycobacterium*. Seminar Cell Biology and Biophysics Programme EMBL. Heidelberg Germany May 22.(CO)

Elsa Anes 2005 "Dynamic life and death interactions between *Mycobacterium smegmatis* and J774 macrophages." Black Forest Phagosome Meeting, Titisee-Waldau, July 6-8, Germany (Plenary Conference)



Elsa Anes. 2005. Cell Biology assays for host-pathogen interactions. EMBO/ University of Cape Town Practical Course Functional Microscopy of host pathogen interactions. Cape Town, South Africa November 18-30. 2005.(Plenary Conference).

Elsa Anes. 2005. From signalling networks to the killing of mycobacteria. EMBO/ University of Cape Town Practical Course Functional Microscopy of host pathogen interactions. Cape Town, South Africa November 18-30. 2005. (Plenary Conference)

Griffiths G, Kuehnel M, Peyron P, Staali L, Gutierrez M, Jordao L, and Anes E., 2005. Phagosome Biology: from Latex bead model to mycobacteria. EMBO/Novartis Foundation Workshop on "Innate Immunity in the Lung" Cape Town, South Africa

Elsa Anes. 2006. Signaling and Cytoskeletal dynamics during mycobacterial infection. Conferencia Proferida no Centro de Estudo de Ciências Farmacêuticas da Faculdade de Farmácia da Universidade de Lisboa. (Plenary Conference)

Elsa Anes. 2006. Signaling and Cytoskeletal dynamics during mycobacterial infection. Conferencia Proferida no Instituto de

Medicina Molecular da Faculdade de Medicina da Universidade de Lisboa. (Plenary Conference)

Elsa Anes 2006. Trick-or-Treat: Dietary Lipids and Host Resistance to Infectious Disease Second Workshop on Host-pathogen interactions and cell signalling. FFUL, 13/07 (Plenary Conference).

Luisa Jordão, Gareth Griffiths and Elsa Anes. 2006. *Mycobacterium bovis* Interactions With Macrophages Second Workshop on Host-pathogen interactions and cell signalling. FFUL, 13/07 (Plenary Conference).

Bibhuti Mishra, Gareth Griffiths and Elsa Anes. 2006. How Macrophages Kill Mycobacteria Second Workshop on Host-pathogen interactions and cell signalling. FFUL, 13/07 (Plenary Conference).

Gareth Griffiths, Mark Kuehnelt, Elsa Anes, Andreas Merz, Benoit Zuber, Jacques Dubochet and Paul Walter. On the Phagosome- The Intracellular Home of Pathogenic Mycobacteria in Macrophages. The 16th International Microscopy Congress, IMC16, Sapporo, Japan, 3-8 September 2006

Luisa Jordão, Gareth Griffiths and Elsa Anes. 2006. Lipid treatment reveals switches between pro- and anti-inflammatory states of macrophages infected with *M.smegmatis* and *M.tuberculosis* Second Black Forest Phagosome Meeting, Titisee-Waldau, October 11-13, Germany (Plenary Conference)

Bibhuti Mishra, Gareth Griffiths and Elsa Anes. 2006. How Macrophages Kill Mycobacteria Second Black Forest Phagosome Meeting, Titisee-Waldau, October 11-13, Germany (Plenary Conference)

Elsa Anes. 2006. Evasion mechanisms of bacterial pathogens. Bacteriology seminar. CEAC-FFUL, Nov.16, Lisbon.

Elsa Anes. 2007. Cell Biology of *Mycobacterium* infection. 2nd Conferencias de Biologia Molecular. Escola Superior de Saúde, Egas Moniz, Marçô

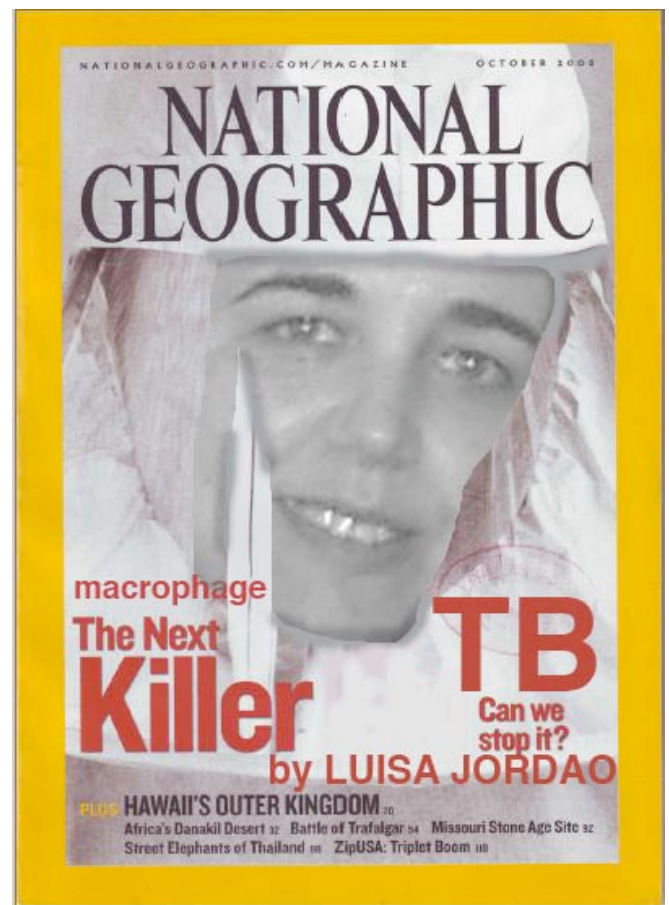
Elsa Anes. 2007. Apoptosis in infectious diseases. Bioquímica da Morte Celular (opção 4º ano) Mestrado integrado em Ciências Farmacêuticas. FFUL, May.

Elsa Anes. 2007. Why phagocytosis is not a degrading experience for *Mycobacterium tuberculosis*. Mestrado em Microbiologia Clínica: módulo micobactérias, May.

Luisa Jordao, Gareth Griffiths and Elsa Anes 2007. Role of sphingolipids in MAP Kinase signalling during *Mycobacterium* spp infections. Lipid signalling pathways: from cell Biology to novel drug targets. FEBS Lipid 2007, Ortona Chieti, Italy. June 22-28.

Elsa Anes. 2007. Endocytosis regulation: cell and molecular approaches. Lessons from pathogens. Intracellular Drug Delivery to cellular targets Workshop with Ruth Duncan-FFUL, July, 10

Elsa Anes. 2007. Endocytic Pathways: new avenues for drug delivery and targeting. Lessons from pathogens. Mestrado em Farmacotecnia Avançada: Farmacotecnia avançada III. July



Elsa Anes group: Maria Luisa Jordao. 2007. On the killing of mycobacteria by macrophages: modulation by signalling lipids. Young Scientists Seminars: Tuberculosis. October, Coimbra.

Elsa Anes. 2008. Apoptosis in infectious diseases. Bioquímica da Morte Celular (opção 4º ano) Mestrado integrado em Ciências Farmacêuticas. FFUL.

Elsa Anes. 2008. Macrophage killing mechanisms for *Mycobacterium tuberculosis*: the inflammasome. Mestrado em Microbiologia Clínica: módulo micobactérias, Jun.

Elsa Anes. 2008. Endocytic Pathways: new avenues for drug delivery and targeting. Lessons from pathogens. Mestrado em Farmacotecnia Avançada: Farmacotecnia avançada III. July

Elsa Anes. 2009. Innate immunity mechanisms for bacterial infections. Módulo Microbiologia e Saúde do mestrado de Microbiologia Aplicada UL.

12. Publicações/ 12. Publications



Colectâneas de resumos/ Abstract Books

Almeida AJ, Rodrigues CMP, Anes E, Morais JAG, Lima JLC, Vítor J, Paulo MA, Moreira R. Resumos das comunicações do 1º Congresso da Sociedade Portuguesa de Ciências Farmacêuticas, Revista Portuguesa de Farmácia, 2003.

Anes E. Abstract book and list and contact of the participants on the Workshop host-pathogen interactions and cell signaling, Faculty of Pharmacy, University of Lisbon, 2003

Anes E, Griffiths G. Abstracts from the Black Forest Phagosome Meeting. Titisee and Waldau, Germany 2005.

Anes E, Krijnse-Locker J, Kuehnelt M, Griffiths G. Abstract Book, and methods on the EMBO/University of Cape Town world Course on Functional Microscopy for Host-Pathogen interactions

Anes E., Griffiths G, Moniz-Pereira J. Abstract book and list and contact of the participants on the Second Workshop on host-pathogen interactions and cell signaling, Faculty of Pharmacy, University of Lisbon, 2006

Manuais de apoio/ Books

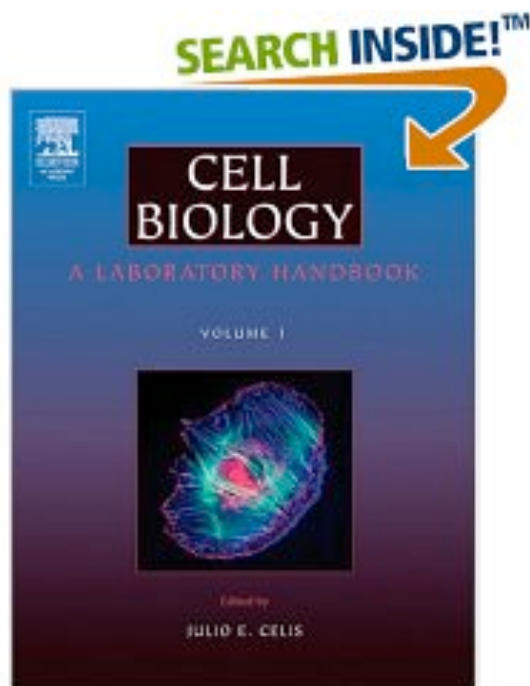
José Moniz-Pereira, Elsa Anes e Isabel Portugal. 1990. Curso Avançado em Genética Bacteriana. Ed. ADEIM, Faculdade de Farmácia da Universidade de Lisboa.

Elsa Anes. 1998. Manual de apoio a Biologia Molecular do Curso de Especialização em Análises Clínicas 1ªEd Faculdade de Farmácia da Universidade de Lisboa.

Elsa Anes. 2000. Manual de apoio a Biologia Molecular do Curso de Especialização em Análises Clínicas 2ªEd Faculdade de Farmácia da Universidade de Lisboa.

Elsa Anes. 2004. Curso de Cultura Celular. Ed Faculdade de Farmácia da Universidade de Lisboa.

Elsa Anes. 2004. Curso de Microscopia Fluorescente e Técnicas de Marcação. Ed Faculdade de Farmácia da Universidade de Lisboa.

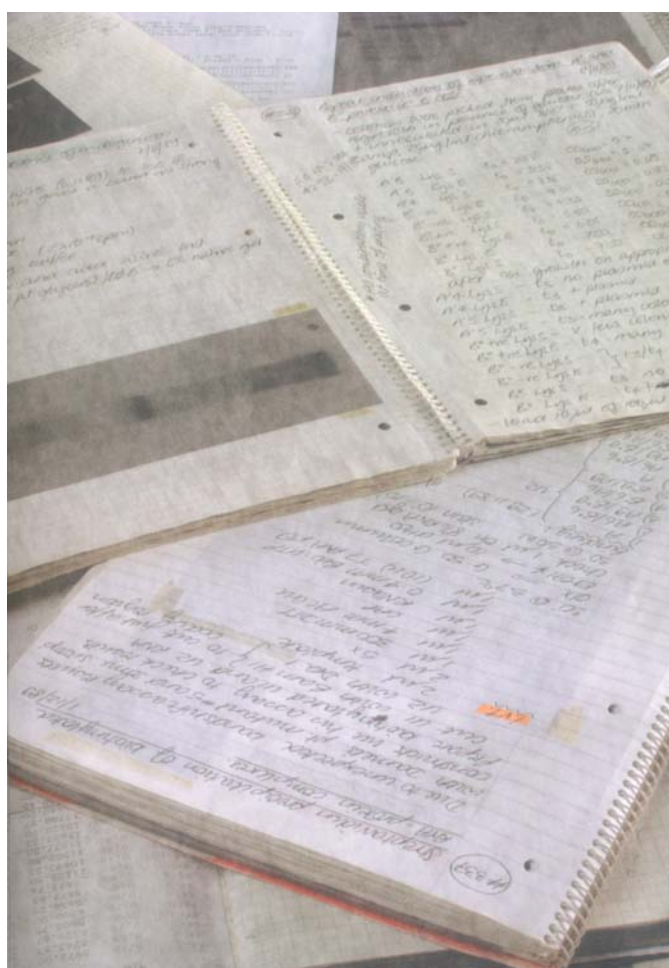


Teses / Thesis

Anes E. 1998. Site-specific recombination in mycobacteria: the mycobacteriophage Ms6 integrative system. PhD thesis, Faculty of Pharmacy, University of Lisbon.

Capítulos de livros / Chapters in books

Kuehnelt, M; Anes E and Griffiths, G. 2005. Isolation of latex beads and mycobacterial phagosomes. In "Cell Biology: a Laboratory Handbook", Chapter VIII; J. Celis (Ed) Third Ed. Academic Press San Diego.



Patentes / Patents

Moniz-Pereira J, Anes E, Vieira A, Garcia M, and Alves P. 1997. DNA integration into *Mycobacterium* spp genome by transcomplementation using a new site-specific integration system. European Patent Application number PCT/PT97/00005.

Moniz-Pereira J, Anes E, Vieira A, Garcia M, and Alves P. 1999. DNA integration into *Mycobacterium* spp genome by transcomplementation using a new site-specific integration system. WO99/07861

Constantino L., Anes E, Simões MF, Valente E. 2006. Formulações vesiculares contendo pró-fármacos do ácido pirazínóico ou de outros ácidos orgânicos, que permitem proteger o pró-fármaco da degradação plasmática e processos para a sua preparação. Patente de Invenção Nacional nº PT103495, ref.DP/01/2007/3349)

Constantino L., Anes E, Simões MF, Valente E. 2007. "Vesicular formulations containing organic acid prodrugs, process for their preparation, new prodrugs, pharmaceutical compositions and method for the treatment of tuberculosis and other mycobacteriosis" (WO/2007/142548; PCT nº PT 2007/000024).



Artigos em revistas de circulação internacional com arbitragem científica / Papers in international scientific periodicals with referees

2009

Marta F. Simões, Emília Valente, M. José Rodriguez-Gomez, Elsa Anes* and Luís Constantino*. 2009. Lipophilic POA amide and ester prodrugs. Stability, activation and activity against *M.tuberculosis*. Eur. J. Pharm. Sci, 37:257-263. * joined corresponding authors.

Mark Kuehnel, Vladimir Rybin, Paras Anand, Elsa Anes and Gareth Griffiths. 2009. Lipids regulate P2X7 receptor-dependent actin assembly by phagosomes via ADP translocation and ATP synthesis in the phagosome lumen. J Cell Science 15;122(Pt 4):499-504.

Maximiliano G. Gutierrez, Alexis Perez Gonzalez Elsa Anes and Gareth Griffiths. 2009. Role of lipids in killing mycobacteria by macrophages: evidence for NF- κ B-dependent and -independent killing induced by different lipids. Cell Microbiol 11(3):406-20.

Daniela L. Fabrino, Christopher K. E. Bleck, Elsa Anes, Andrej Hasilik, Rossana CN Melo, Michael Niederweis, Gareth Griffiths and Maximiliano Gabriel Gutierrez. 2009. A role for porins in the susceptibility to nitric oxide-mediated killing of mycobacteria. Microb Infect, 11(10-11):868-75.

Bibhuti B. Mishra, Pedro Moura-Alves, Avinash Sonawane, Nir Hacohen, Gareth Griffiths, Luis F. Moita* and Elsa Anes*. 2009. *Mycobacterium tuberculosis* activates the inflammasome: multiple NLRs sense distinct PAMPs. submitted. * joined corresponding authors.

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2. Portugal, I., E. Anes, and J. Moniz-Pereira. 1988. Temperate mycobacteriophage from *M. smegmatis*. "4ème Colloque International sur les mycobactéries". Instituto Pasteur de Paris. (CO)
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11. Anes, E., A. Vieira, and J. Moniz Pereira. 1997. "Mycobacteriophage Ms6 site-specific integration locus". "Micro'97, Congresso Nacional de Microbiologia", organizado pela Sociedade Portuguesa de Microbiologia, Tomar, Portugal. (CO)
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Cursos de Formação Pós-Graduada
Centro de Patogenese Molecular
Faculdade de Farmácia da Universidade de Lisboa

Curso de
Cultura Celular

2 a 6 de Fevereiro 2004

Tópicos:
 Introdução à cultura de células animais
 Segurança e técnicas básicas assépticas
 Meios de cultura e formulações
 Culturas primárias
 Culturas secundárias (células normais e cancerígenas)
 Cultura em condições aderentes e não-aderentes
 Manutenção de células e conservação
 Medição da viabilidade celular
 Testes de esterilidade
 Transfecção com DNA recombinante

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 contacto: Prof Dra Elsa Anes
eanes@ff.ul.pt
www.ff.ul.pt

POCT/BCI/38983/2001, POCT/ESP/39987/2001 POCT/FCP/38750/2001

14. Madalena Pimentel, Elsa Anes, Miguel Garcia, and J. Moniz-Pereira. 1999. The gene *pin* of Mycobacteriophage Ms6: Location of the gene product and role in superinfection exclusion. The 1999 Molecular genetics of bacteria and phages meeting. Univ. Of Wisconsin-Madison Aug.(P)

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17. Madalena Pimentel, Elsa Anes, Miguel Garcia, and J. Moniz-Pereira. 2000. The protein *Pin* of mycobacteriophage Ms6 is involved in a resistance to superinfection mechanism. ASM conference on Tuberculosis: Past, Present, and Futur, NY, Jun (P)

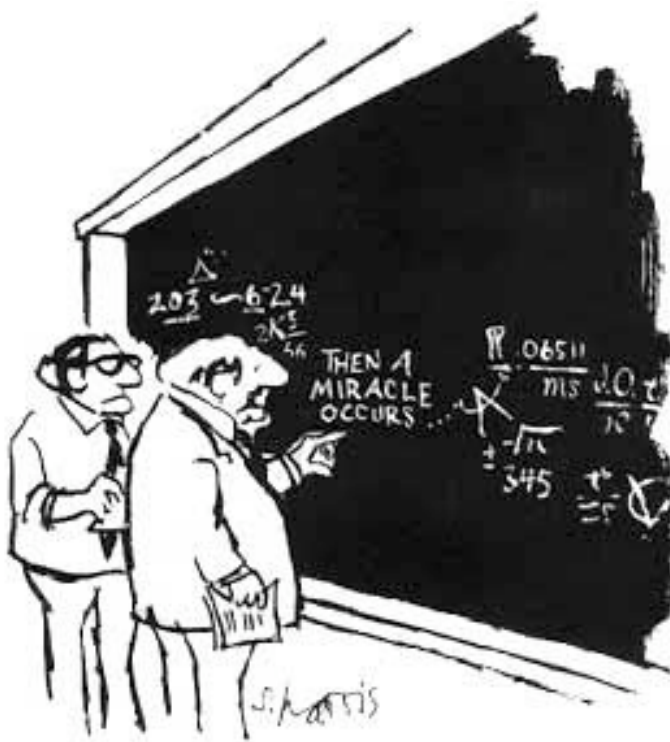
18. Elsa Anes, Evelyne Bos, Anja Habermann, and Gareth Griffiths. 2001 Interaction of mycobacterial containing phagosomes with the actin and microtubules cytoskeleton. Segundas Jornadas da SPCF Lisboa Março (P)

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20. Mark Kuenhel, Elsa Anes, Evelyne Bos, Anja Habermann, and Gareth Griffiths. 2001. Role of lipids in regulating membrane-de-

pendent actin nucleation. In Lipid-mediated signalling in cellular functions. FEBS Advanced Course. Conzorzio Mario Negri Sud, Santa Maria Imbaro (Chieti), Italy, Jun. (poster and selected oral communication)

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23. Elsa Anes, Mark Kuehnel, Evelyne Bos, Anja Habermann, José Moniz Pereira, Thomas Dandekar, and Gareth Griffiths "Manipulation of signalling pathways in the membrane of latex bead and mycobacterial phagosomes" In the book of "Euresco conference" Frontiers of Cellular Microbiology and Cell Biology", San Feliu de Guixols, 2002. (poster and oral communication).
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25. Elsa Anes, Mark Kuenhel, Evelyne Bos, J. Moniz-Pereira, Anja Habermann, and Gareth Griffiths. 2003. Selected lipids can activate phagosome actin assembly and maturation leading to the growth arrest of pathogenic mycobacteria. Primeiro Congresso da Sociedade Portuguesa de Ciências Farmacêuticas. Abril, 13-16.(P)
26. Luísa Jordão, Elsa Anes, Luís Constantino. 2003. Avaliação da actividade antimicobacteriana do Imipenem na sobrevivência intracelular de *M. avium*. Comparação entre as formas livre e lipossomal do fármaco. Primeiro Congresso da Sociedade Portuguesa de Ciências Farmacêuticas. Abril, 13-16.(P)
27. Luísa Jordão, Luís Constantino, Elsa Anes. 2003. Avaliação da actividade antimicobacteriana de combinações de amoxicilina e ácido clavulâmico e cefaloridina e ácido clavulâmico na sobrevivência intracelular de *M. avium* e *M. tuberculosis*. Comparação entre as formas livre e lipossomal do fármaco. Primeiro Congresso da Sociedade Portuguesa de Ciências Farmacêuticas. Abril, 13-16.(P)



"I think you should be more explicit here in step two."

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28. Luísa Jordão, Elsa Anes, Luís Constantino. 2003. Desenvolvimento e validação dum método de doseamento simultâneo de amoxicilina e ácido clavulâmico em plasma por HPLC. Primeiro Congresso da Sociedade Portuguesa de Ciências Farmacêuticas. Abril, 13-16.(P)

29. Elsa Anes, Mark Kuenhel, Gareth Griffiths. 2003. The role of lipid signaling in the membrane of mycobacterial phagosomes. Workshop Host-pathogen interactions and cell signalling. FFUL, 21.05 (Plenary Conference).

30. Elsa Anes, Mark Philipp Kuehnel, Evelyne Bos, Jose Moniz Pereira, Anja Habermann and Gareth Griffiths "Selected lipids activate phagosome actin assembly and maturation resulting in killing of pathogenic mycobacteria" Programme and Book of abstracts from Proceedings of the National Congress of Microbiology, MICRO'2003 C32, pag 148, 2003 (CO , P)

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32. Luisa Jordao, Pascale Peyron, Leila Staali, Maximiliano Gutierrez, Monica Hagedon, Mark Kuehnel, Gareth Griffiths and Elsa Anes. 2004. A role for P38 MAP kinase in the dynamic life and Death interactions of *Mycobacterium smegmatis* in macrophages. "Euresco conference" Frontiers of Cellular Microbiology and Cell Biology: Spacial and temporal dynamics of the endomembrane system", San Feliu de Guixols, 2004. (P and Invi-

33. Luisa Jordao, Pascale Peyron, Leila Staali, Maximiliano Gutierrez, Monica Hagedon, Mark Kuehnelb Gareth Griffiths and Elsa Anes. 2004. A role for P38 MAP kinase in the dynamic life and Death interactions of *Mycobacterium smegmatis* in macrophages. XIV Congresso Nacional de Bioquímica, Vilamoura (P).
34. Elsa Anes; Mark Kuehnel, Luisa Jordao, Pascale Peyron, Leila Staali, Maximiliano Gutierrez, Mónica Hagedorn, and Gareth Griffiths. Lipids and P38 Map kinase signaling for actin assembly on phagosomal membranes: implications on phagosome maturation and mycobacterial killing in macrophages. "Tuberculosis: Integrating Host and Pathogen Biology" Keystone Symposia, Whistler, British Columbia, Canadá, April 2-7, 2005.(P)
35. Luisa Jordao, Gareth Griffiths, and Elsa Anes. Cell Biology of *Mycobacterium bovis* interaction with macrophages. Workshop Cryo Methods in Analytical and Immuno-Electron Microscopy. Sociedade Portuguesa de Microscopia Electrónica e Biologia Celular, Lisboa IST, May 31 to June. 2005(CO)
36. Luisa Jordao, Gareth Griffiths, and Elsa Anes. Cell Biology of *Mycobacterium bovis* interaction with macrophages. "Sixth International Conference on the Pathogenesis of Mycobacterial Infections" Saltsjobaden Suécia. June 30 to July 3, 2005 (P)
37. Luisa Jordao, Gareth Griffiths, and Elsa Anes. Cell Biology of *Mycobacterium bovis* interaction with macrophages The EMBO Practical Course on Electron Microscopy and Stereology in Cell Biology. Ceske Budejovice, Czech Republic, June 19-29, 2005. (CO)
38. Elsa Anes Group: Luisa Jordao. 2005 Cell Biology of *Mycobacterium bovis* interaction with macrophages. Black Forest Phagosome Meeting, Titisee-Waldau, July 6-8, Germany (CO)
39. Elsa Anes 2005 "Dynamic life and death interactions between *Mycobacterium smegmatis* and J774 macrophages." Black Forest Phagosome Meeting, Titisee-Waldau, July 6-8, Germany (Plenary Conference)
40. Luisa Jordao, Gareth Griffiths, and Elsa Anes. Cell Biology of *Mycobacterium bovis* interaction with macrophages. EMBO/ University of Cape Town Practical Course Functional Microscopy of host pathogen interactions. Cape Town, South Africa November 18-30. 2005. (CO)
41. Elsa Anes. 2005. Cell Biology assays for host-pathogen interactions. EMBO/ University of Cape Town Practical Course Functional Microscopy of host pathogen interactions. Cape Town, South Africa November 18-30. 2005.(Plenary Conference).
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43. Gareth Griffiths, Mark Kuehnel, Pascale Peyron, Leila Staali, Maximiliano Gutierrez, Luisa Jordao and Elsa Anes. Phagosome Biology : from a Latex Bead model to mycobacteria. EMBO/ Novartis Foundation Workshop on « Innate Immunity in the Lung» Cape Town, South Africa 30/11 to 2/12. 2005. (Plenary Conference)

44. Elsa Anes, Stefanos Kalamidas, Mark Kuehnelt, Susanne Rauch, and Gareth Griffiths G. The cyclic AMP system switch for phagosome actin assembly and maturation and its role in killing mycobacteria in macrophages 12th International Congress on Infectious Diseases, Lisbon 15-18 June 2006 (P)
45. Luisa Jordão., Gareth Griffiths and Elsa Anes Understanding Host-pathogen interactions during macrophage infection with *Mycobacterium bovis*. 12th International Congress on Infectious Diseases, Lisbon 15-18 June 2006.(P)
46. Gareth Griffiths, Mark Kuehnelt, Elsa Anes, Andreas Merz, Benoit Zuber, Jacques Dubochet and Paul Walter. On the Phagosome- The Intracellular Home of Pathogenic Mycobacteria in Macrophages. The 16th International Microscopy Congress, IMC16, Sapporo, Japan, 3-8 September 2006 (OC).
47. Luísa Jordão, Pascale Peyron, Leila Staali, Maximiliano Gutierrez, Mark Kuehnelt, Gareth Griffiths and Elsa Anes A role for P38 MAP kinase in the dynamic life and death interactions of *Mycobacterium smegmatis* in J774 macrophages.”. FEBS 15th Protein Kinase Meeting- Spatial and Temporal Regulation of Signalling. Oslo, Noruega. 2006.(P)
48. Elsa Anes 2006. Trick-or-Treat: Dietary Lipids and Host Resistance to Infectious Disease Second Workshop on Host-pathogen

interactions and cell signalling. FFUL, 13/07 (Plenary Conference).

49. Luisa Jordão, Gareth Griffiths and Elsa Anes. 2006. *Mycobacterium bovis* Interactions With Macrophages Second Workshop on Host-pathogen interactions and cell signalling. FFUL, 13/07 (Plenary Conference).

50. Bibhuti Mishra, Gareth Griffiths and Elsa Anes. 2006. How Macrophages Kill Mycobacteria. Second Workshop on Host-pathogen interactions and cell signalling. FFUL, 13/07 (Plenary Conference).

51. Marta F Simões, Emília Valente, Elsa Anes and Luís Constantino. 2006. Esters and Amide Prodrugs of Compounds With Anti-Tuberculosis Activity. Second Workshop on Host-pathogen interactions and cell signalling. FFUL, 13/07.

52. Luisa Jordão, Gareth Griffiths and Elsa Anes. 2006. Dietary Lipids and Host Resistance to Mycobacterial Infections. Second Black Forest Phagosome Meeting, Titisee-Waldau, October 11-13, Germany (Plenary Conference)

53. Bibhuti Mishra, Gareth Griffiths and Elsa Anes. 2006. How Macrophages Kill Mycobacteria Second Black Forest Phagosome Meeting, Titisee-Waldau, October 11-13, Germany (Plenary Conference)

54. Marta Filipa Simões, Emília Valente, Luís F Constantino and Elsa Anes. 2007. Stability and Activity of Prodrugs with Potential anti-TB Activity. Second Euroconference on BioBanking, Cascais-Portugal, March 9-11.

55. Luisa Jordão, Gareth Griffiths and Elsa Anes. 2007. Dietary Lipids and Host Response to Tuberculosis. Tuberculosis: From Lab Research to Field Trials (C6-2007), The Keystone Symposia, Vancouver, British Columbia, Canada. March 20-25.

56. Bibhuti Mishra, Maximiliano Gutierrez; Gareth Griffiths and Elsa Anes. 2007. Role of NF-KB in mycobacterial killing in macrophages. Tuberculosis: From Lab Research to Field Trials (C6-2007), The Keystone Symposia, Vancouver, British Columbia, Canadá. March 20-25.
57. Maximiliano Gutierrez, Bibhuti Mishra, Elsa Anes and Gareth Griffiths. 2007. NF-KB activation during mycobacterial infection regulates membrane trafficking molecules. Tuberculosis: From Lab Research to Field Trials (C6-2007), The Keystone Symposia, Vancouver, British Columbia, Canada. March 20-25.



SECOND WORKSHOP

HOST-PATHOGEN INTERACTIONS AND CELL SIGNALING

URIA-Centro Patogénese Molecular, Faculdade de Farmácia da Univ. Lisboa
13 Julho 2006
Acesso Livre com Pré-inscrição

Mycobacteria-macrophage interactions

9,00h Role of the phagosome in interactions of mycobacteria with macrophages
Gareth Griffiths, EMBL, HD Germany

9,30h Role of actin in phagosome biology
Mark Kuehnelt, EMBL, HD Germany

10,15h How macrophages kill mycobacteria
Bibhuti Mishra, EMBL, HD Germany URIA-CPM, FFUL

10,45h *Mycobacterium bovis* interactions with macrophages
Luisa Jordão, URIA-CPM, FFUL

11,30h Trick-or-Treat: Dietary Lipids and Host Resistance to Infectious Disease
Elsa Anes, URIA-CPM, FFUL

12.00h-14.00h **LUNCH/POSTER VIEWING**

HIV-host cell interactions

14.00h Assembly of HIV in macrophages
Jacomine Krijnse Locker, EMBL, HD Germany

14.30h The HIV, the cell, the viral entry and its consequences...
José Miguel Azevedo Pereira, URIA-CPM, FFUL

15.00h HIV Infectivity and Cellular Innate Defenses: How to Avoid a Dead-End?
João Gonçalves, URIA-CPM, FFUL

Phagocytic and antigen presentation cells

15.45h The role of the neutrophil in pathogen biology
Edith Elliott, Univ. of Natal, South Africa

16,15h Biochemistry of lysosomes and phago-lysosomes
Clive Dennison, Univ. of Natal, South Africa

16.45h Genetic dissection of innate immune processes using RNA interference
Luís Moita, IMM-FMUL

Organização

Elsa Anes
José Moniz-Pereira
URIA-CPM

Com o apoio :

FCT/FEDER/POCI2010/BIA-BCM/55327/2004
Faculdade de Farmácia da Universidade Lisboa
ADEIM: Associação para o Desenvolvimento do Ensino e da Investigação em Microbiologia

Contactos e pré inscrição

Elsa Anes eanes@ff.ul.pt
Fax 217934212
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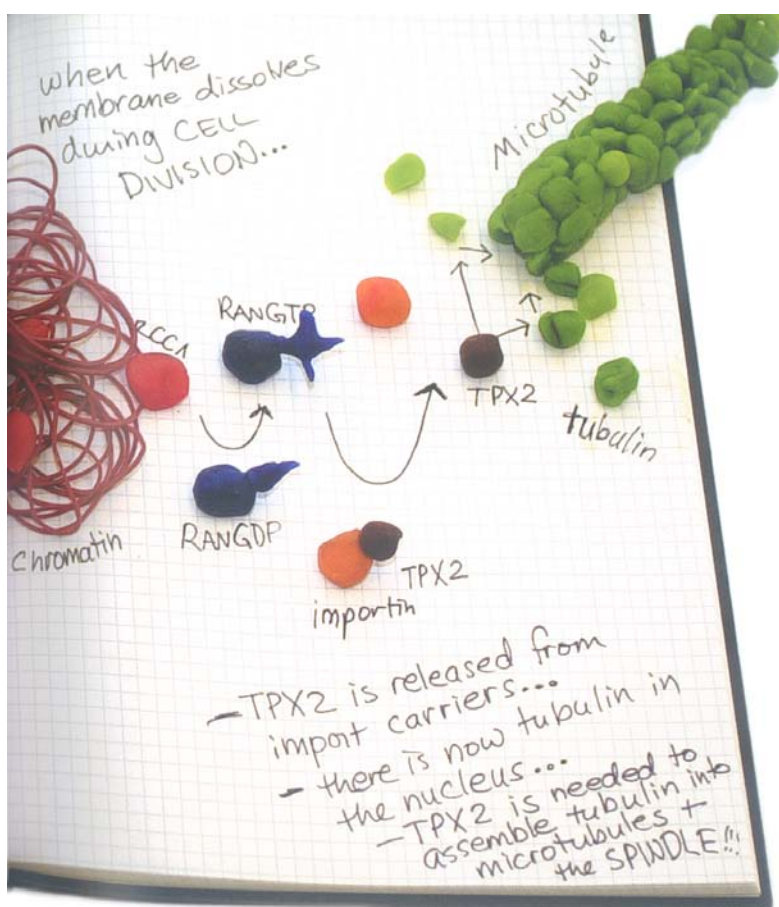
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