

Targeting the PI3K/AKT/mTOR pathway in cancer

Sitges, Barcelona **28 February - 1 March 2014**



GOOD SCIENCE
BETTER MEDICINE
BEST PRACTICE

ESMO Personalised Medicine TF created in 2012

To steer the ESMO strategy in developing in depth scientific and educational resources about personalised medicine for oncologists to improve patient care:

Scientific Symposium on dissecting molecular pathways

Section in ESMO guidelines where appropriate

E-learning modules and **webinars**

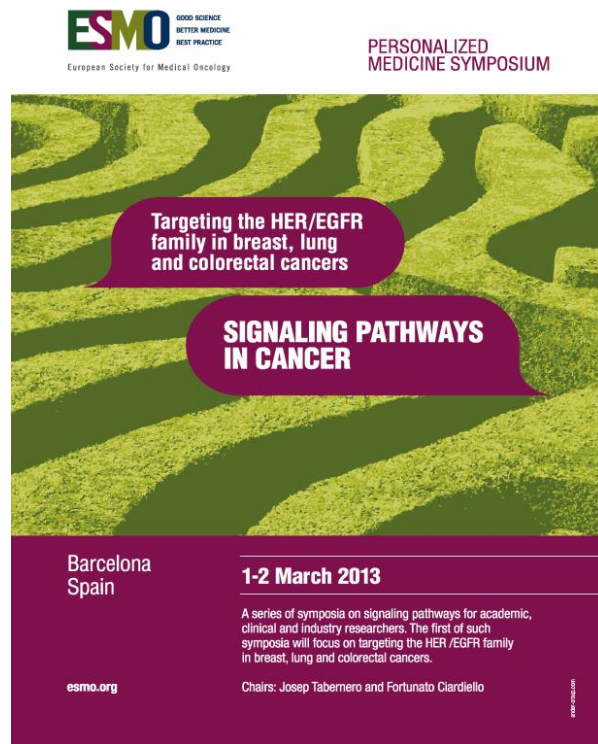
Section on PM in new **OncologyPro Tumour knowledge portal**

Personalized medicine focused **video series** with KOLs

Educational material to support work with patients (**Guide for patients in PM**)

To liaise with ESMO Public Policy Committee on positioning ESMO, and the MO profession, in the PM public policy sector, monitor PM developments, strive for realistic and achievable EU initiatives to support medical community objectives and support the accelerated adoption of PM.

First Scientific Symposium in 2013 on targeting EGFR/HER receptors



Objectives

- To review HER targeting in breast, lung and colorectal cancer and discuss on challenges for best clinical use
- To introduce the HER family of structurally related cellular receptors and the methods in which they interact
- To understand a role of HER family receptors dysregulation in cancer development
- To understand which tumor types are influenced by HER pathways and subsequent potentials for therapeutic targeting
- To understand how HER signaling pathways complexity allows targeting by using several different strategies

Educational activities: Webinar, Tumour Knowledge Portal; PM section in guidelines



ESMO Clinical Practice Guidelines
PM Section in Primary BRC

Genomic Grade Index* are commercially available, but none of them have proven robust clinical utility so far. In some cases of difficult decision, such as grade 2 ER-positive HER2-negative and node-negative breast cancer, MammaPrint[®] and Oncotype DX[®] may be used in conjunction with all clinicopathological factors, to help in treatment decision-making [20, 61]. Results from large phase III prospective clinical trials (MINDACT, TAILORx and RxPONDER) are eagerly awaited for an optimal and accurate use of these new tools in clinical practice. A Stomarker summary table is shown in Table 6.

ESMO Personalized Medicine Task Force

Educational activities for **professionals**: Editorials in AoO; videos in PM

For **patients**: Patient guide on essential concepts in PM;

Educational seminar and videos for pts

editorials

Personalised cancer management: closer, but not here yet

Personalised cancer management—giving patients optimum treatment according to their individual circumstances (including genetics) and the molecular characteristics of their tumours—is a key theme of the European Society for Medical Oncology (ESMO) in 2013. Indeed, it is a key theme for oncologists in general, and in all aspects of medicine. Integrating research and innovation directed towards personalised care is also an objective of the European Union's Horizon 2020 science funding programme [1].

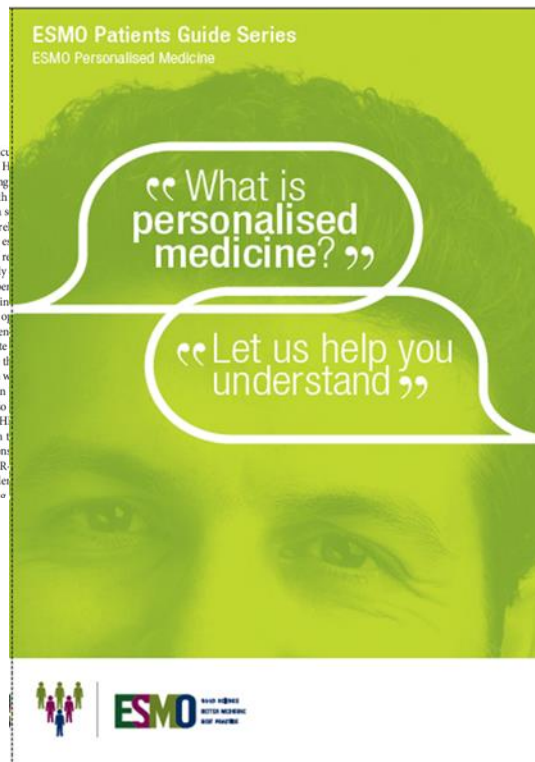
In cancer, personalised medicine is particularly crucial. In no other specialty are the margins between benefit and toxicity so small and the differences between patients so large. Given the narrow therapeutic index of the drugs we use, individual risk factors for toxicity (notably comorbidities and the extent and nature of prior treatments) are crucial in deciding the appropriateness of different interventions. This is evident, for example, with the risk of cardiotoxicity accompanying the use of trastuzumab [2].

We have to deal with profound differences between tumours

strategies, particularly at different levels. It is ground-breaking research that still grapple with subgroups. In a sense, this is a relatively small re

In part, this research is relatively small re we are especially most likely to be and inter- and in identifying the op individual patient example, despite to demonstrate th be used only in w abnormalities in

There are also around half of H HER2 drugs. In t complete response are mostly in ER possibility of ide HER2? cionallio



Video learning modules

Sharing goals and resources with TRWG: More structured learning opportunities to educate physicians on molecular pathways

Molecular pathways: **First module on c-MET** with emphasis on NSCLC

The screenshot shows the ESMO V-Learning module interface. At the top, the ESMO logo and tagline 'GOOD SCIENCE BETTER MEDICINE BEST PRACTICE' are visible. Below the navigation bar, the module title 'ESMO V-Learning: Targeting MET with an emphasis on NSCLC' is displayed. The left sidebar contains a menu with 24 items, including '1. Targeting MET', '2. Hepatocyte Growth Factor R...', '3. Hepatocyte Growth Factor (...)', '4. MET Pathway and Related SI...', '5. MET Cooperative Signaling P...', '6. Movie', '7. MET : Dysregulation Across C...', '8. Several Compounds Inhibit ...', '9. Specific MET Inhibitors Evalu...', '10. Non-specific MET Inhibitors ...', '11. MET Inhibitors Trials Charac...', '12. Examples of MET Inhibitors ...', '13. Cabozantinib (XL184) Targe...', '14. Randomized Discontinuat...', '15. Broad Anti-tumour Activity ...', '16. Phase II Randomized Discon...', '17. Phase II Randomized Discon...', '18. CRPC Bone-metastatic Patie...', '19. Docetaxel-pretreated CRPC ...', '20. Breast Cohort: Effects in Sof...', '21. Breast Cohort', '22. Hepatoma Cohort: Effects o...', '23. Hepatoma Cohort: Response', and '24. Hepatoma Cohort: Overall ...'. The main content area includes 'Learning Objectives', a table of 'Targeting MET with an Emphasis on NSCLC' (50 min, 75 slides, 1 CME Point), a 'Did you know?' section, and a 'Related content' section. A large blue graphic at the bottom features the title 'Targeting MET with an emphasis on NSCLC' and the name 'Solange Peters, MD, PhD, Cancer Center, University of Lausanne, Switzerland'.

ESMO V-Learning: Targeting MET with an emphasis on NSCLC

Learning Objectives

- To understand the multi-domain structure of MET and hepatocyte growth factor, as well as their role in processes at the cell level
- To understand the MET pathway and related signalling, as well as a role of this cascade in different types of cancer
- To describe novel therapeutic agents – c-MET inhibitors, their mechanism of action and achievements from recent clinical studies in non-small cell lung cancer and other tumour types

Title	Duration	Content	CME Points	CME Test
Targeting MET with an Emphasis on NSCLC	50 min	75 slides	1	Take Test

Did you know ?

We have a new Tumour Knowledge Portal on OncologyPRO

Related content

Targeting MET with an emphasis on NSCLC

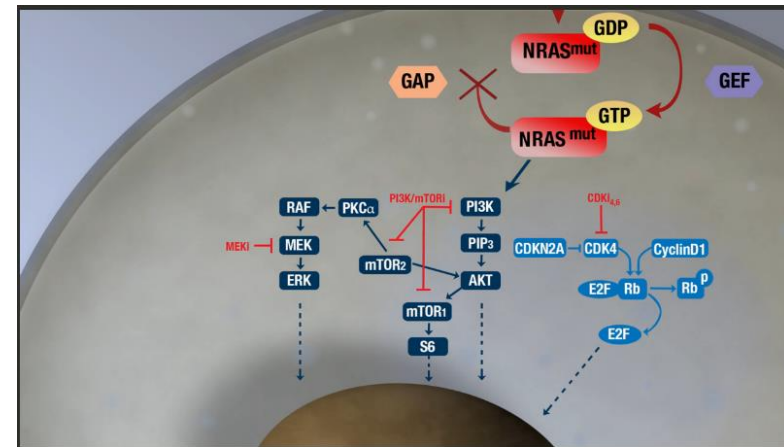
Solange Peters, MD, PhD
Cancer Center
University of Lausanne
Switzerland

- First ESMO video-learning module on c-MET

Structure of the module:

- Video material on mechanistic aspects of signalling cascade (video is embedded in the slide set, separately uploaded at ESMO iTunes University channel, and further dissected for ESMO YouTube channel)
- PowerPoint Presentation for E-module (voice synchronization)
- A list of cancers correlated with c-MET
- A list of drugs with c-MET as a target
- Links to key references on the subject for further reading

Coming soon: New V-learning module on MEK



V-LEARNING

Inhibition of MEK to Treat Cancer: Focussing on Melanoma

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The Royal Marsden NHS
NHS Foundation Trust

European Society for Medical Oncology

**Inhibition of MEK to Treat Cancer:
Focussing on Melanoma**

James Larkin
FRCP PhD

Menu

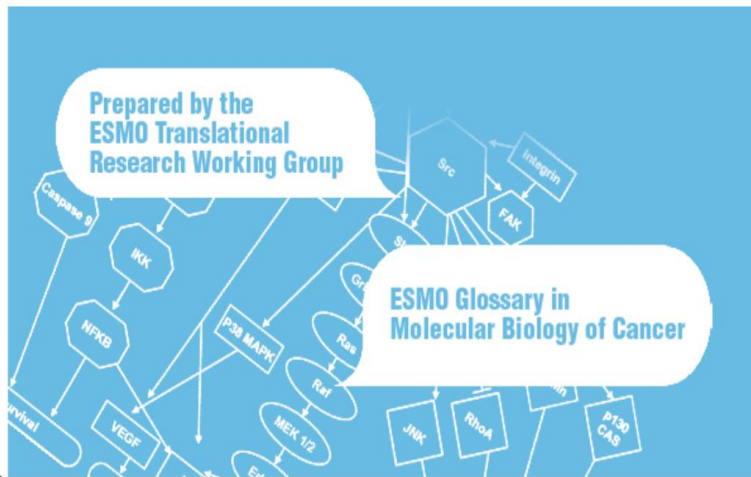
- ▼ Inhibition of MEK to Treat Can...
 - Overview
 - Case Presentation
 - Liver metastasis
 - Subcutaneous metastasis
 - Case Presentation
 - MEK: a central signalling node
 - RAS signalling via MAP kinas...
 - MEK as a therapeutic target
 - MEKi in trials: toxicity
 - MAP Kinase Pathway
- ▼ RAF
 - Improved survival with MEK ...
 - Efficacy of Trametinib
 - Efficacy of Trametinib
 - Combined BRAF and MEK In...
 - Efficacy of Dabrafenib plus T...
- ▼ NRAS
 - MAP Kinase Pathway
 - Patients with NRAS mutations
 - MAP Kinase Pathway
- ▼ GNAQ
 - Selumetinib (AZD6244) in Uv...
 - Challenges for 'Targeted' Ca...

◀ PREV NEXT ▶

ESMO Glossary in Molecular Biology of Cancer

From A-to-Z in translational research

Electronic copy available under Publications section of OncologyPro, due to high demand a second printed edition is available for distribution, material is accompanied with a slide set available to ESMO members to download



- A common terminology to enable oncology practitioners to speak the same language with basic scientists and translational researchers when analyse research findings and apply the cancer biology into cancer medicine.
- An aid for practicing oncologists when acquiring knowledge and developing an awareness and appreciation of the molecular processes underlying the development of cancer.
- A tool for practicing oncologists to understand basic requirements for common laboratory techniques used to demonstrate molecular features of malignancy when critically evaluate and interpret research findings.
- Selected terms accompanied with image consisting of two panes, one on the structure of the gene, and the second one on its network.

E-Learning modules in TR topics

CME accredited activity

Biomarkers of anti-VEGF therapy

Formation of blood vessels and **Formation of lymphatic vessels**

VEGF Receptors: VEGFR-1, VEGFR-2, VEGFR-3. Ligands: VEGF-A, VEGF-B, VEGF-C, VEGF-D.

ESMO E-Learning: Biomarkers of Anti-VEGF Therapy

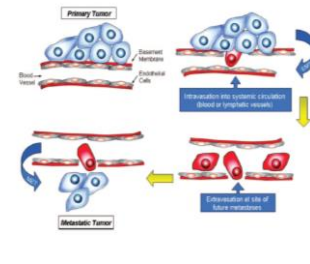
Learning Objectives:

- To understand the role of VEGF in tumor angiogenesis and its role in the development of blood vessels and lymphatic vessels.
- To understand the role of VEGF in the development of blood vessels and lymphatic vessels.
- To understand the role of VEGF in the development of blood vessels and lymphatic vessels.

Did you know?

ESMO E-Learning is a free online resource for medical oncologists. It provides a comprehensive overview of the latest research and clinical practice in various cancer topics.

Circulating tumor cells



ESMO E-Learning: Circulating Tumor Cells (CTCs)

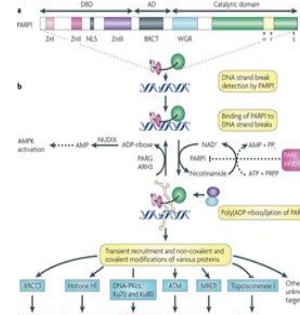
Learning Objectives:

- To understand the role of circulating tumor cells (CTCs) in the development of metastasis.
- To understand the role of CTCs in the development of metastasis.
- To understand the role of CTCs in the development of metastasis.

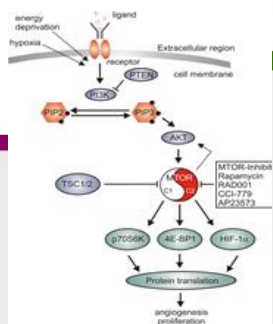
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PARP



mTOR inhibition/targeting in solid tumors



ESMO E-Learning: mTOR Inhibition/Targeting in Solid Tumors

Learning Objectives:

- To understand the role of mTOR in cell growth and metabolism.
- To understand the role of mTOR in cell growth and metabolism.
- To understand the role of mTOR in cell growth and metabolism.

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The use of biomarkers for treatment decisions in oncology

**Targeting the PI3K/
AKT/mTOR pathway**

**Symposium on Signalling
Pathways in Cancer**
Preliminary programme

Sitges, Barcelona
Spain

28 FEBRUARY - 1 MARCH 2014

IMPORTANT DEADLINES:

13 January 2014 Early registration

05 February 2014 Late registration and pre-registration closure



The second ESMO Personalised Medicine Symposium aims to enhance understanding of PI3K/AKT/mTOR signalling pathway and complexities related to its targeting in a range of tumour types.

Symposium objectives:

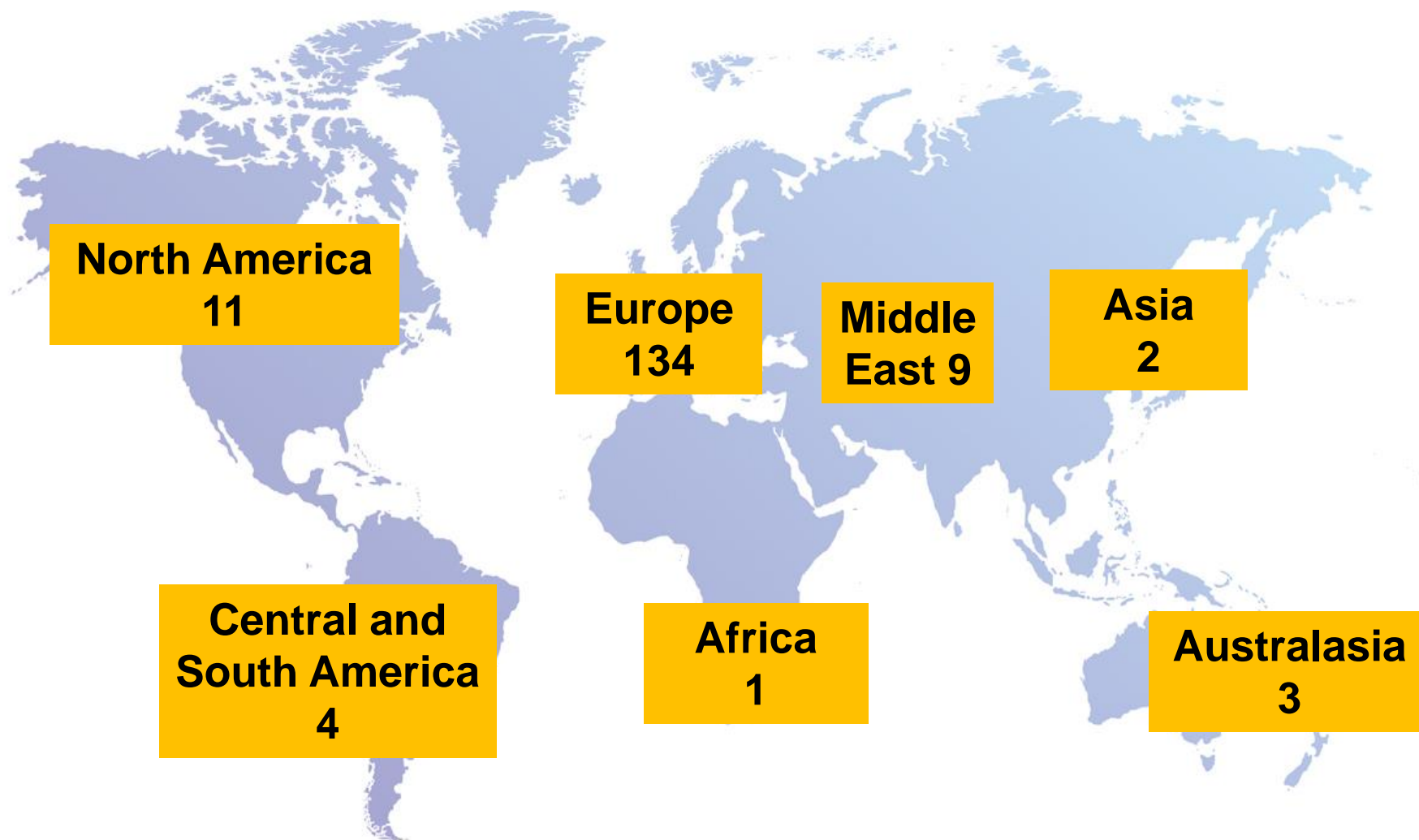
To provide a basic introduction in preclinical data relevant for understanding of functional mechanisms in the PI3K/AKT/mTOR pathway

To understand basic concepts of translating preclinical observations in the PI3K/AKT/mTOR signalling into cancer clinics

To provide an essential update on different aspects important for rational clinical development of the PI3K/AKT/mTOR inhibitors

To elaborate from the clinical perspective, in a range of malignant diseases, on recent achievements and the data from currently ongoing clinical trials in targeting all axes of the PI3K/AKT/mTOR pathway

164 participants from 37 countries



What to expect from the programme



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Symposium Officers

Fabrice André, Villejuif, France, **Co-Chair**

Cristiana Sessa, Bellinzona, Switzerland,
Co-Chair

Scientific Committee members:

Andrea Alimonti, Bellinzona, Switzerland

Monica Arnedos, Villejuif, France

Fortunato Ciardiello, Naples, Italy

Johann de Bono, Sutton, UK

Bryan Hennessy, Dublin, Ireland

Josep Tabernero, Barcelona, Spain

Education on preclinical and clinical issues relevant for targeting all axis of PI3K/AKT/mTOR pathway

Starting from the principles of signal transduction, discussion will evolve around rationale and strategies to inhibit the PI3K/AKT/mTOR pathway

Explanation for interactions with other systems at the molecular level

Updates on drugs in development or already approved indications

Different aspects important for drugging of this pathway in a range of malignant diseases

Digging into mechanisms of primary and secondary resistance

A profile of side effects

Overview of clinical trials that examine the emerging pathway inhibitors

Faculty

Targeting the PI3K/AKT/mTOR pathway in cancer



Fabrice André

Andrea Alimonti

Monica Arnedos

Thomas Bachelot

Philippe Bedard

Massimo Broggini

Fortunato Ciardiello

Johann de Bono

Sylvie Guichard

Bryan Hennessy

Yasir Ibrahim

James Larkin

Sibylle Loibl

Cristian Massacesi

Christophe Massard

Marianne Pavel

Jordi Rodón

Violeta Serra

Cristiana Sessa

Anastasios Stathis

George Thomas

ESMO 2014

SEE YOU THERE!

Madrid, Spain
26-30 September 2014

PRECISION MEDICINE IN CANCER CARE

IMPORTANT DEADLINES

7 May 2014	Abstract submission
18 June 2014	Early registration
20 August 2014	Late-breaking abstract
20 August 2014	Late registration