



Science For A Better Life

HealthCare

## Bayer R&D Investor Day 2005

December 8, 2005 | London



# Bayer HealthCare



Bayer R&D Investor Day 2005

## Driving the Paradigm Shift in Cancer Research

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Bayer HealthCare

## Forward Looking Statements



This presentation contains forward-looking statements based on current assumptions and forecasts made by Bayer Group management.

Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in our public reports filed with the Frankfurt Stock Exchange and with the U.S. Securities and Exchange Commission (including our Form 20-F). The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

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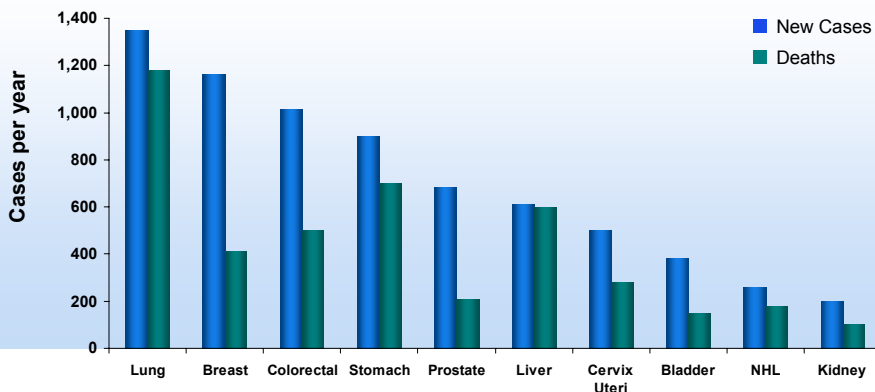
## Key Messages



- Bayer has the critical mass to succeed in cancer research
- Our approach in cancer research is innovative and competitive
- Promising clinical projects beyond Nexavar

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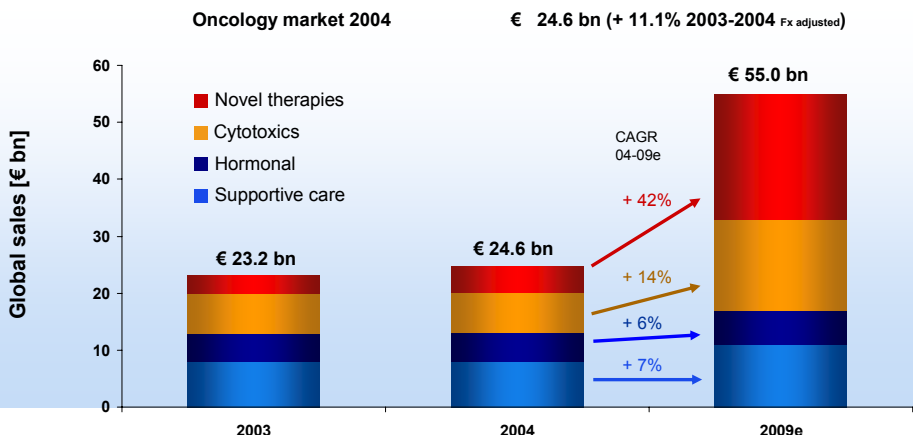
# Cancer is Still a Leading Cause of Death despite Progress in Therapy



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Source: Globocan 2002, ranked by incidence  
Latest global data available

# Huge Market Opportunities from Novel Therapies

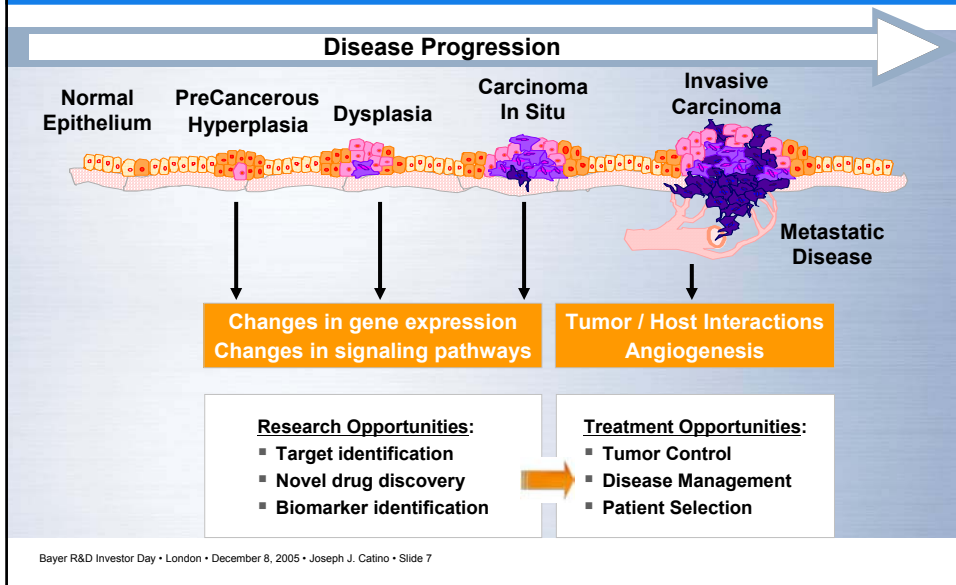


Novel therapies like monoclonal antibodies and targeted therapeutics are expected to drive the paradigm shift in cancer therapy

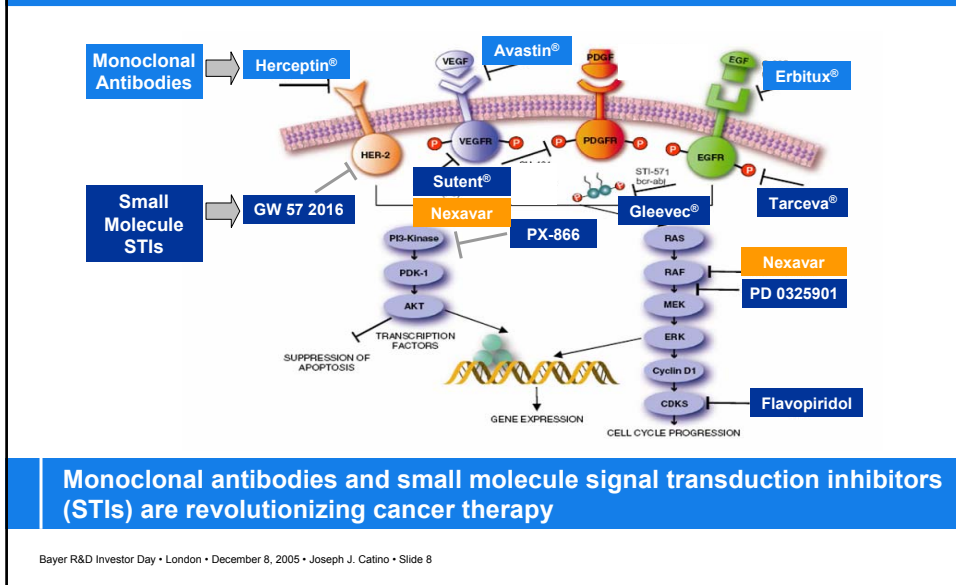
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Source: IMS DATA: Evaluate Forecasts  
excludes Interferons and Immunosuppressants

# Multiple Genetic Changes Are Involved in the Development and Progression of Cancer



# Modulation of Cell Signaling Cascades Emerges as Novel, Targeted Cancer Therapy



## Competitive Resources in Bayer Cancer Research

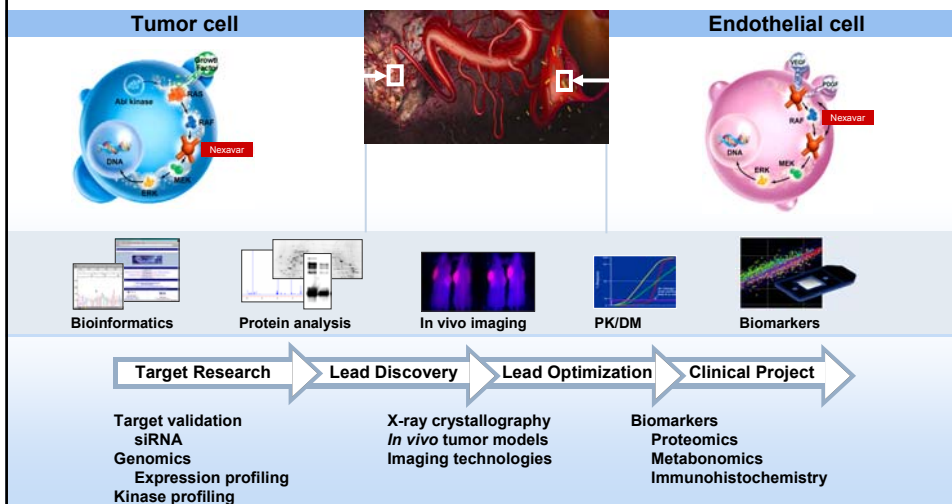


- 300+ highly qualified scientists
- 'State of the Art' technology platform for drug discovery
- Biological expertise in signaling pathways
- Diverse therapeutic approaches for cancer treatment including small molecules and protein therapeutics
- Recognized kinase expertise
- Competitive advantage in biomarkers discovery and assay development in collaboration with Bayer Diagnostics

Global Center of Excellence in West Haven, USA

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## Key Technologies and Competencies Across the Drug Discovery Process in Place



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## Kinase Inhibitors for New Cancer Therapies



- Kinase inhibitors offer potential for innovative cancer therapies currently not addressed by marketed agents
- Bayer programs have competitive advantage over existing products
  - Target selectivity
  - Enhanced solubility
  - Improved patient exposure and potentially better side effect profile
  - Activity against drug resistance induced by hot spot mutations
  - Combination therapy with other agents
  - Several first-in-class research programs

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## Maximizing the Value of our Kinase Expertise



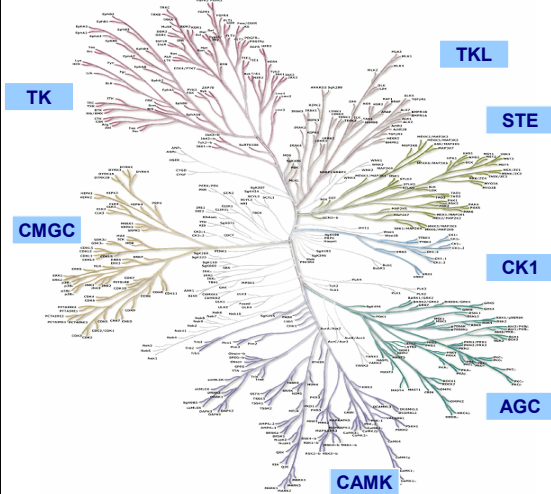
### Capitalizing on our expertise to explore new kinase targets

- Diverse chemical scaffolds with strong IP estate
- Experts at exploiting signal pathways for novel target identification and assay development
- Rapid and effective kinase profiling paradigm
- Applying crystal structure data to molecular design
- Leveraging findings to develop compounds to address clinically important mutations
- Exploiting diverse kinase sub-types

**Highly competitive strategy to tailor therapeutic approach for patients in need**

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# There are Hereditary Links Between Kinases - The Human "Kinome"



Activated Kinases stimulate cell proliferation and cancer development

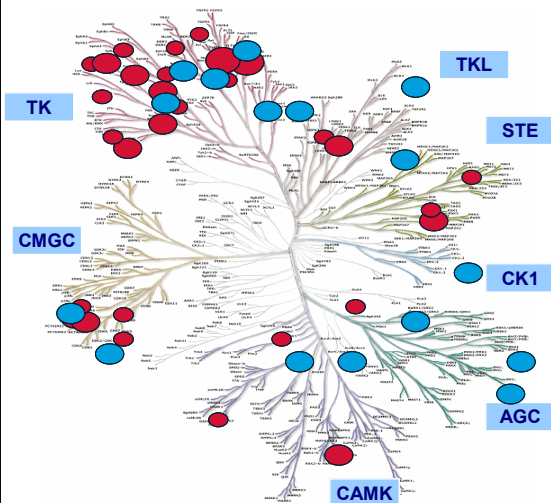


Different branches of the "Kinome" offer diverse approaches to treating cancer



Bayer HealthCare is exploiting various "Kinome" space to discover Novel Therapeutics

# Targeting New Areas of the Human "Kinome"



- Leveraging kinase expertise
- Identify novel targets
- Approach the entire breadth of the human "kinome"
- Identify lead compounds active against disease-relevant kinases

### Multi kinase directed candidates

- Bayer development pipeline (6 compounds)
- Bayer research pipeline (> 6 compounds)

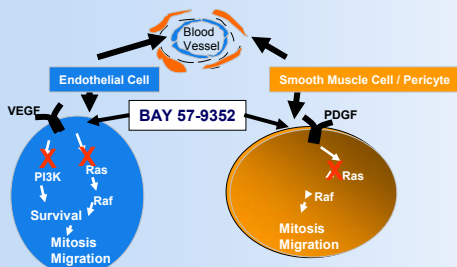
# Momentum is Building with a Promising Early Cancer Pipeline



Phase I	BAY 57-9352	Angiogenesis Inhibitor
	BAY 73-4506	Dual Acting Signal Transduction Inhibitor
Preclinical	BAY 80-3000	Cell Cycle Inhibitor
	BAY 77-5378	Apoptosis Inducer
	BAY 72-9629	Angiogenesis Inhibitor
	BAY 81-1557	Dual Receptor Kinase Inhibitor

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## BAY 57-9352: Inhibiting Tumor Angiogenesis



- Oral small molecule with potentially improved side effect profile
- Safety profile in phase I supports combinability with other therapeutic regimens
- Ability to address wide variety of VEGFR mutations, observed clinically
- Potentially targeting a variety of tumor types with a focus on gastrointestinal cancers

**Orally active small molecule inhibitor effectively blocking VEGFR and PDGFR as key elements of tumor angiogenesis**

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# BAY 57-9352: Next Steps in Clinical Development



## Phase I Single Agent Studies

- Dose escalation in two phase I studies to assess safety and biomarker activity
- Planned completion 1H'06

## Phase Ib studies

- Start of combination studies (including bevacizumab, oxaliplatin, docetaxel) expected to start 1H'06

## Phase II studies

- First phase II program expected to start 1H'06

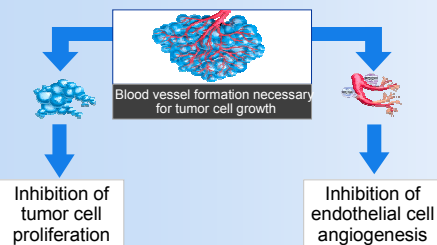
**140 patients treated in phase I program to date**  
**Signals of clinically relevant anti-cancer activity detected**  
**Study findings planned for presentation at scientific congresses 2H'06**

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# BAY 73-4506: A Novel Dual Acting Signal Transduction Inhibitor



## Novel VEGFR and Raf kinase inhibitor in phase I development



- Control of tumor cell proliferation through Inhibition of C-Raf / B-Raf kinase
- Control of tumor blood supply through inhibition of VEGF receptor family
- Significant anti-tumor activity in preclinical models
- Activity in broad spectrum of solid tumors
- Potential for once-daily chronic therapy to control proliferation and angiogenesis

**Preliminary early phase I data encouraging**

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## BAY 73-4506: First Patients treated in Clinical Development



### Preclinical

- Control of tumor growth in pancreatic, lung, and colon carcinoma animal models
- Tumor regression in a breast carcinoma model

### Clinical Development

- Phase I single agent study started in July 2005
- Anticipate phase II decision 2H'06

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## Key Messages



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## Bayer Oncology - Committed to Deliver on Milestones 2006



- Phase II decision for angiogenesis inhibitor BAY 57-9352 in 1H'06
- Expected start of combination studies for angiogenesis inhibitor BAY 57-9352 in 1H'06
- Phase II decision for dual acting kinase inhibitor BAY 73-4506 in 2H'06
- At least one additional cancer project to move into phase I until end-2006



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