



Merck In-licensing (TechConnect 2006)

COMBINING OUR STRENGTHS
SHARING OUR SUCCESSES

Reid J. Leonard, Ph.D.
Senior Director
Worldwide Licensing & External Research
Merck & Co., Inc

Forward-Looking Statement

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Merck's research and development strategy – embracing partnerships



- **Ensure a strong internal research capability**
- **Leverage this capability through collaborations**
- **Openly collaborate with the best partners**
- **Continually evaluate potential transactions**
 - From platform technologies to late-stage product opportunities
 - In a coordinated approach across the company

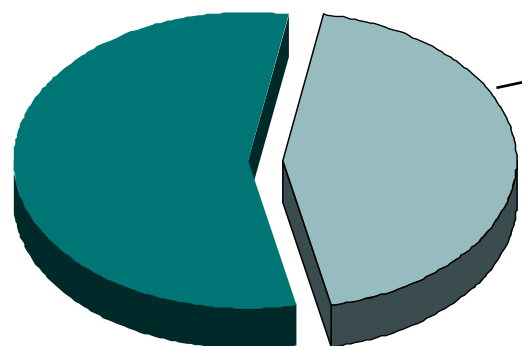
Combining Internal Expertise and External Innovation

Merck licensing strategy results in high-value alliances

Over \$9.5 billion, or 44% of Merck's sales, are attributed to alliance products and patents

Key Products:

- FOSAMAX
- COZAAR / HYZAAR
- NEXIUM
- VARIVAX
- RECOMBIVAX HB



**Licensed Products or Patents:
44% of total sales**

2005 Revenues: \$22 Billion

- In addition, through the partnership with Schering-Plough, Merck shares in the profits of ZETIA and VYTORIN sales: \$2.4 billion in 2005

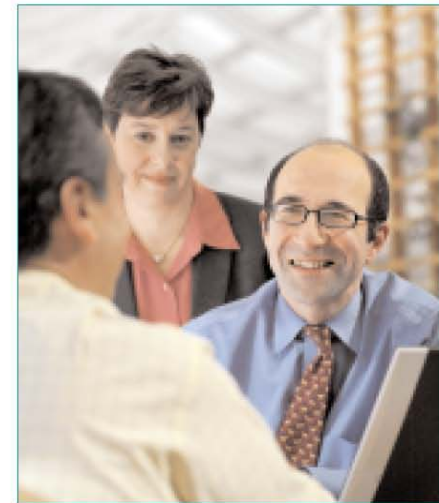
Partnering Process - Overview



**Opportunity Initiation
(Find and Select)**



**Doing the Deal
(Negotiate)**



**Alliance Management
(Implement)**

Step 1: Search and Evaluation

- Worldwide scouts seek out opportunities
- Non-confidential information submitted
- Initial non-confidential review by monthly Review & Licensing Committees
- Confidential disclosure agreement signed
- Confidential review of data
- Face-to-face scientific meetings
- Approval by scientific committee

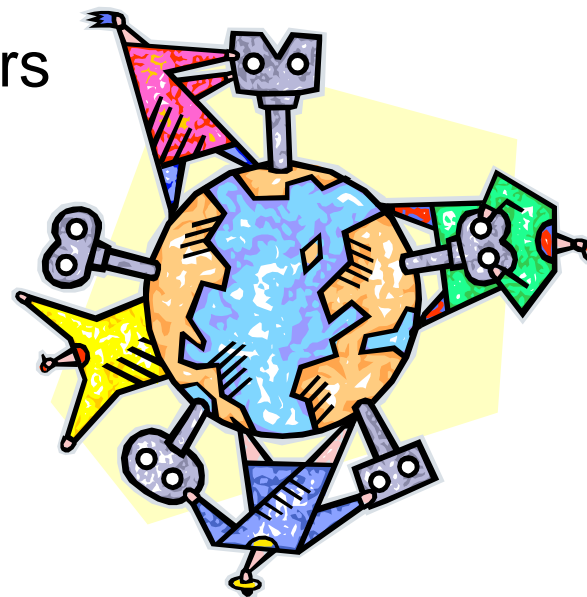


**Opportunity Initiation
(Find and Select)**



Regional Scouting Function Established in Key Locations To Build Personal Relationships

- Senior level Merck scientists
- Build close relationships with local scientific community (companies, academia, VC's, organizations)
- Point of contact for potential partners
- Key locations established:
 - Western & Eastern Europe
 - Boston
 - New Jersey & Pennsylvania
 - San Diego
 - Canada
 - Japan
 - Australia



Leaving No Stone Unturned: Merck's Evaluation Process for New Opportunities

- Key objective at all levels of MRL
- Clear prioritization of interests
 - Therapeutic areas and technology
 - Cross divisional input
 - Aligned with worldwide business strategy for each franchise
- Efficient screening of all opportunities
 - Proactive and reactive
 - Strategic and opportunistic
 - Through monthly Review and Licensing Committees
 - Involvement of over 200 Merck experts in basic biology and chemistry, preclinical, patent, clinical and marketing

What does Merck look for in a molecule ?

- **Potency** in-vitro and in-vivo
- **Mechanism** -- evidence that molecule “hits the target” in animals
 - Minimally a pharmacodynamic assay
 - Ideally, activity in a validated animal model
- **Selectivity** vs. a large range of receptors, enzymes, ion channels
- Preliminary **toxicology** data
- Oral **bioavailability** (for small molecules) and good **half-life**
- **Strong IP** position
 - On the target
 - On the molecule
 - Most compound patents can be designed around
 - This is why there are so many “fast followers” or “me too” drugs

Step 2: Doing the deal

- Transaction Manager assigned
- Term sheet negotiations conducted
- Due diligence
- Licensing Management Committee approval
- Definitive agreements negotiated
- Agreements executed



Doing the Deal
(Negotiate)



Corporate Licensing Transaction Managers

Major Agreement Negotiation

Transaction Managers

- cover multiple Therapeutic Areas
- work closely with Scientific Liaisons, Marketing, Manufacturing, & Finance
- manage cross-divisional process to deal execution
 - Develop term-sheets
 - Negotiate Agreements within approved boundaries
 - Supported by Corporate Legal and Patent Legal
 - Lead Teams for Commercial Approval

Commercial Valuation

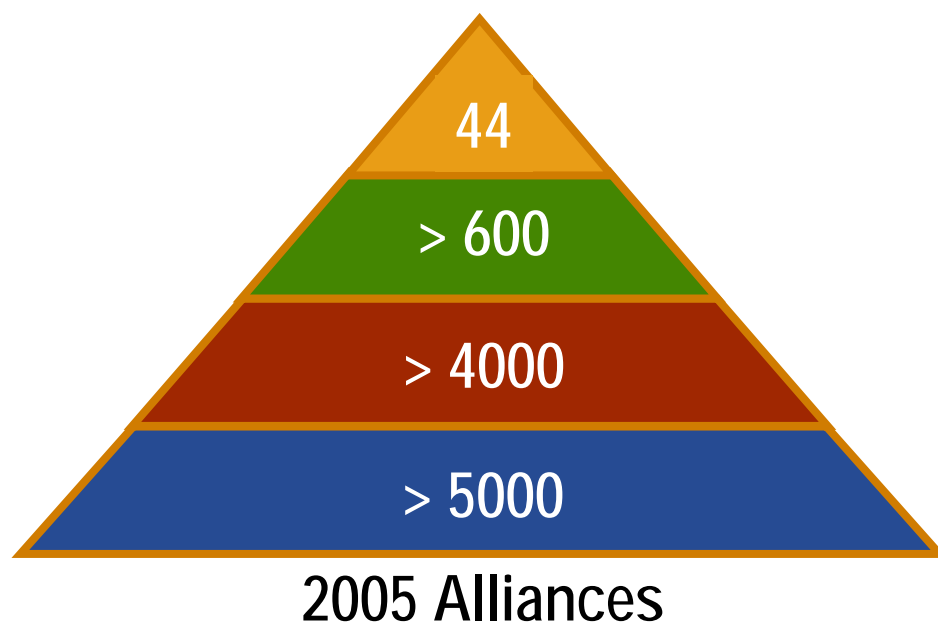
- Early (technology through preclinical)
 - Based on IP and comparables
 - “Need vs. Want” to supplement internal efforts
- Late (in clinical development)
 - Based on IP, comparables, and anticipated product profile
 - Impact on unmet medical need
 - Promotable advantages
 - Size of the market / market share
 - Franchise “fit” and alignment with global strategy
 - NPV-driven financial analysis
 - Sales modeling

Quality x Medical Potential = Value

Characteristics of a “high-value molecule”

- Addresses a large, unmet medical need
- Possesses a novel, superior, mechanism of action
- First in class or best in class product
- Combinable with other therapies
- Can be developed rapidly
- Protected by strong patents

Opportunity evaluation is a full-time endeavor



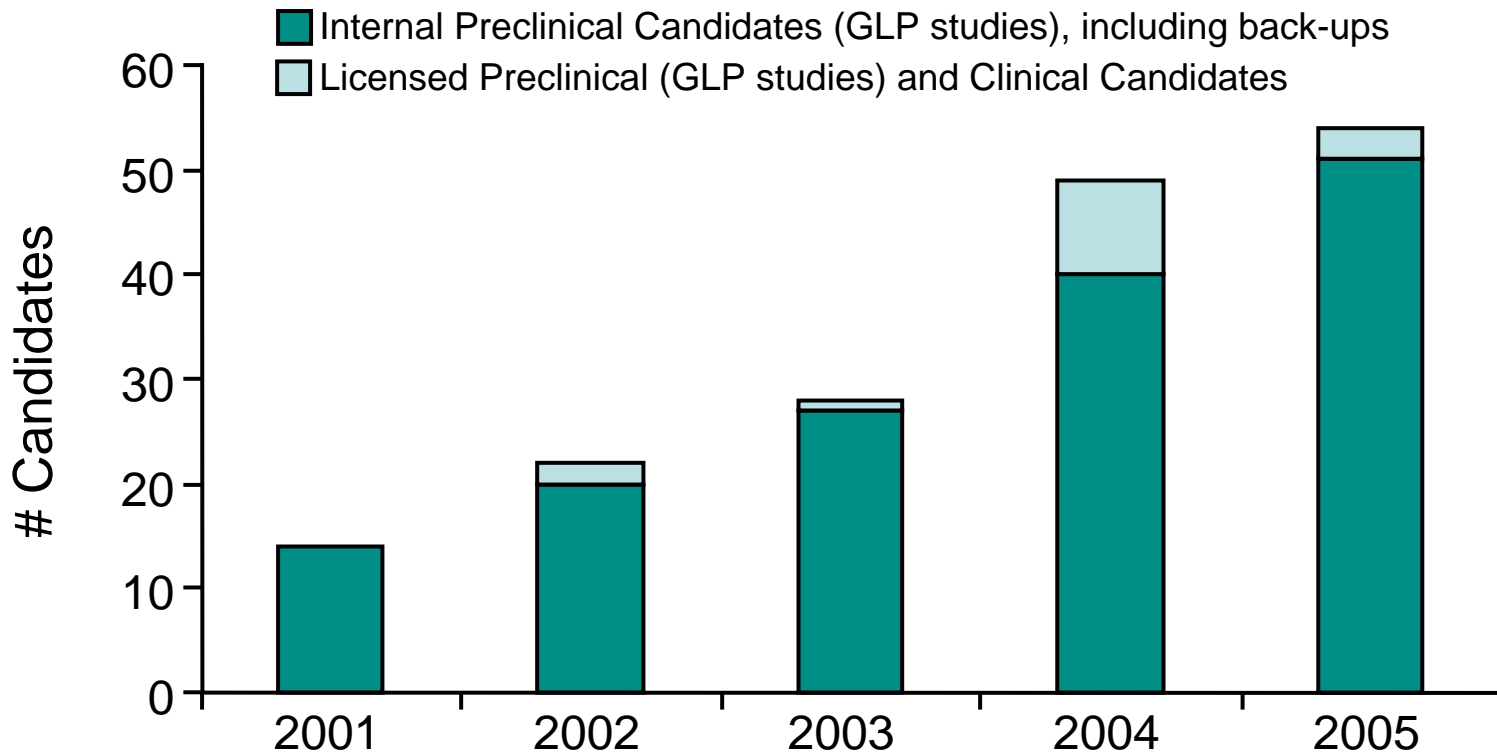
Executed ('significant')

Reviewed under a CDA

Nonconfidential review

Interactions

New Candidates *Entering* the Merck Pipeline 2001-2005



% to Phase I (Internal Candidates) **33%*** **>50%*** **>57%*** **>36%***



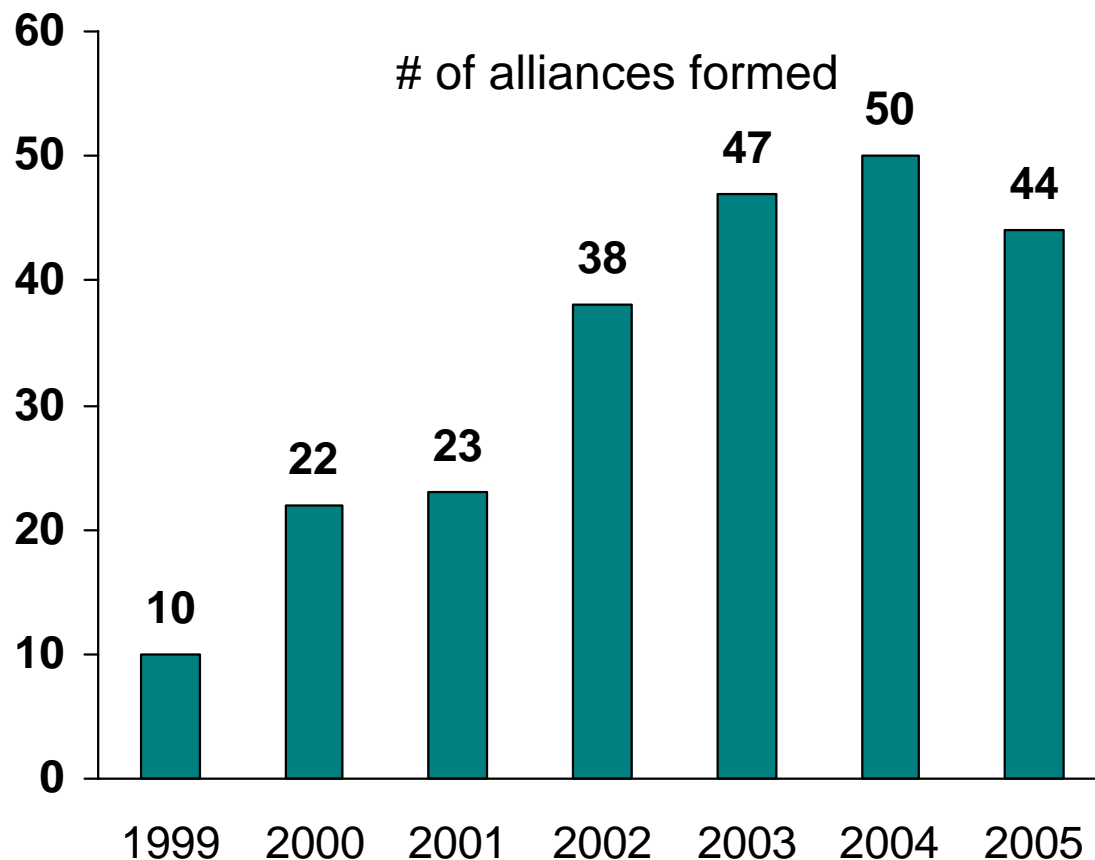
Whitehouse Station, N.J., U.S.A.

* Lower limit since some candidates remain in preclinical development (as of February, 2006)

COMBINING OUR STRENGTHS
SHARING OUR SUCCESSSES

Over the past 4 years Merck has greatly increased our number of significant alliances

179 deals signed during 2002 - 2005



Speed in Deal-Making

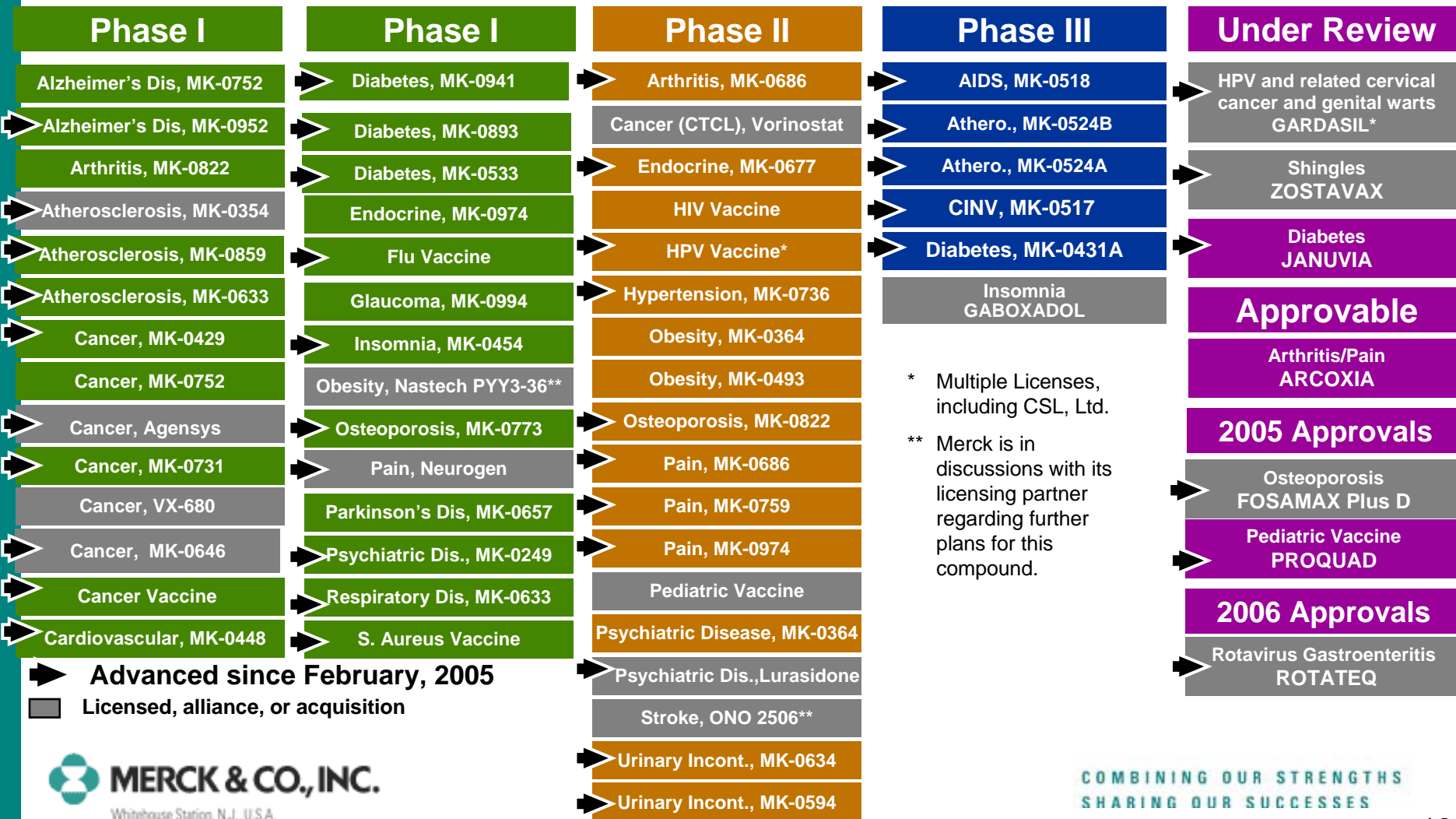
From 1st meeting to signature:

- **Aton** (Cancer) – 2 months
- **Vertex** (Cancer) – 2 months
- **Neurogen** (CNS) – 2.5 months
- **Actelion** (CV) – 4 months
- **Lundbeck** (CNS) – 5 months
- **Arena** (GPCRs) – 6 months



Merck Pipeline – February 15, 2006

Impact of partnerships across the spectrum



Merck's Selected Areas of Interest

High Priority:

Alzheimer's Disease
Atherosclerosis
Cardiovascular disease
Diabetes
Novel Vaccines
Obesity
Oncology
Pain
Sleep Disorders

Focused Interest:

Antibiotics
Antifungal
Antiviral (HCV, HIV)
Asthma
COPD
Neurodegeneration
Ophthalmology
Osteoporosis
Schizophrenia
Stroke

Technology Platforms:

Biologics and Antibodies
Drug Delivery
Information Technologies
Molecular Profiling /
Molecular Biomarkers
New Vaccine Technology
Research Technologies /
Drug Discovery Platforms
In Vivo Imaging

In addition to the High Priority and Focused Interest areas, Merck will continue to pursue external licensing opportunities in other disease areas where clinical proof of concept exists. Merck will also pursue niche acquisitions and partnerships in diagnostics and devices where it complements our pipeline and not as a stand alone business.

Summary

- External Alliances are a key strategic component of future growth
 - Enabling Technologies
 - Preclinical programs
 - Clinical Development compounds
- What is Merck seeking from Partners?
 - Excellence in Science
 - Quality of the science
 - Subject Matter Expertise
 - Enthusiasm to collaborate openly
 - Shared vision of bringing the best medicine to patients worldwide

***Combining our strengths,
Sharing our successes***

You've discovered something significant. Now discover us!

- We are strongly committed to partnership success
- We are inspired by your innovation
- Together we can translate cutting-edge science into breakthrough medicines
- We apply winning commercial strategies to reach the global market
- Alliance Management: great relationships make great partnerships

<http://www.merck.com/licensing/>