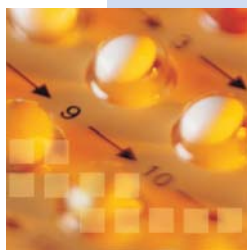
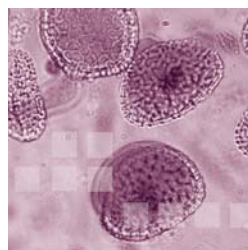
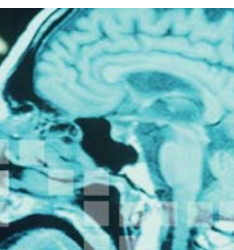


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A Datamonitor report

Drug Repositioning Strategies

Published: May-08

Product Code: DMHC2400

Providing you with:

- **Outline** of what drug repositioning is, and what is driving it
- **Overview** of the key players in the repositioning industry their methodologies and specialities
- **Case-studies** describing a number of drugs which are or have been repositioned
- **Insight** into how repositioning will change going forward

Use this report to...

Understand what drug repositioning is, and why it is important

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Introduction

Drug repositioning has several advantages over traditional discovery-reduced cost, risk and time to market, providing an attractive prospect for Big Pharma which is scrambling to fill pipelines in an increasingly harsh market environment. As competition to in-license candidates drives the price of this strategy up, drug repositioning presents a cost effective alternative.

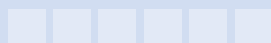
Repositioning is not a new concept, however, has traditionally occurred through serendipity rather than informed insight. The many companies now involved in repositioning are seeking to reverse this trend, using a variety of technologies and methodologies aimed at systemizing drug repositioning in a young and highly fragmented industry. With the value that repositioning brings, Innovators are likely to incorporate the strategy into their own development process, changing the dynamics of the repositioning industry going forward.

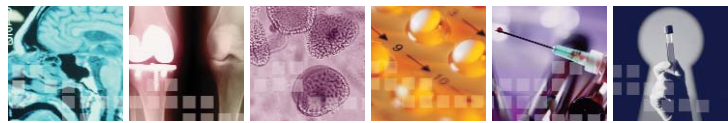
Key findings and highlights

- Despite increasing R&D investment, productivity has been declining, at a time when Big Pharma is contending with late-stage pipeline failures and more rigorous drug approval procedures, in addition to external challenges in the form of generic competition and pricing pressures.
- The cost savings, accelerated path to market, and lower risks that repositioning brings relative to traditional discovery are attractive to Big Pharma, which has thus far been filling pipeline gaps by in-licensing, a practice which has become more expensive as competition for candidates increases.
- The companies involved in repositioning currently differ greatly in the methodologies used, in addition to their disease focus, however as the strategy gains traction, the industry is likely to undergo considerable consolidation.

Reasons to buy

- **Understand** what drug repositioning is, and why it is important
- **Become** aware of who the key players in drug repositioning are and how they operate
- **Gain** an insight into how drugs have been, and are being repositioned





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Sample pages from the report

Overview of drug repositioning **DATAMONITOR**

Conventional *de novo* drug development

It has been estimated that the drug development process, from discovery to registration, can take up to 10–15 years and cost \$802m (Figure 5) (Pharmaceutical Industry Profile, 2007).

Figure 5: The innovative drug development process

At best, a molecule has only a one in 50,000 chance of becoming a drug which actually reaches the market (Pharmaceutical Industry Profile, 2007).

It has been estimated that 90% of all drugs are discontinued more often due to issues associated with safety, efficacy, or manufacturing (Pharmaceutical Industry Profile, 2007).

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Key players in drug repositioning **DATAMONITOR**

CHAPTER 3 KEY PLAYERS IN DRUG REPOSITIONING

This chapter provides an overview of the companies involved in repositioning, and aims to provide an outline of the methodologies they employ, in addition to their ongoing pipeline.

Figure 9 summarizes where the major repositioning companies lie, in terms of business model, therapeutic focus, and technology platform—three aspects key to their success.

Figure 9: Summary of some of the key players in drug repositioning

Ore Pharmaceuticals and Sosei stand out in terms of business model, disease focus, and technology platform very different ways, with outsourcing compared to Ore Pharmaceuticals's model.

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Drug repositioning case studies **DATAMONITOR**

Figure 19 outlines the molecular mechanism of raloxifene action in osteoporosis and breast cancer.

Figure 19: Raloxifene's action in osteoporosis and breast cancer

Raloxifene is a specific estrogen receptor modulator (SERM) and exerts its action by binding the estrogen receptor. In bone, this interaction results in an estrogen agonist-type effect, whereas the converse occurs in breast tissue. Raloxifene's dual action is down to the complement of co-activators and co-repressors recruited to estrogen responsive genes in the different cell types (Evista, highlights of prescribing information).

One drug, two mechanisms of action

The observation that estrogen treatment tended to reduce cardiovascular risk in post-menopausal women, combined with the findings that raloxifene, then known as an estrogen agonist, had a positive effect on levels of cardiovascular risk factors, led researchers to investigate the drug's effect on clinical coronary events (Barrett-Connor et al, 2006).

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"...I think a number of companies also are thinking of not only looking at their failures but they are also considering doing this as a kind of therapeutic optimization even for their live pipeline as it moves forward internally.."

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- **Key findings**

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- **Repositioning technologies**
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 - Most repositioned drugs are old, with little patent protection
 - Prior safety and toxicology data may be incomplete or inadequate
 - Repositioning a drug for which primary indication use is still active
 - Acquiring discontinued drugs

KEY PLAYERS IN DRUG REPOSITIONING

- **Ore Pharmaceuticals - one of the most established players in drug repositioning**
 - Ore Pharmaceuticals's corporate history
 - Ore Pharmaceuticals's screening process is a composite of several technology platforms
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- Dynogen's partnerships and collaborations

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- Synosia
- DanioLabs
- Pharnext
- Arachnova

DRUG REPOSITIONING CASE STUDIES

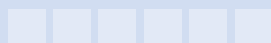
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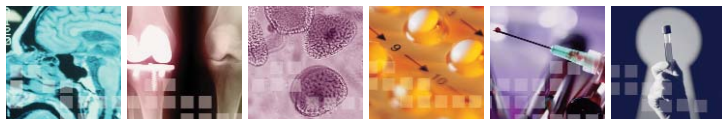
- **Drugs repositioned through informed insight**

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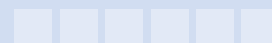
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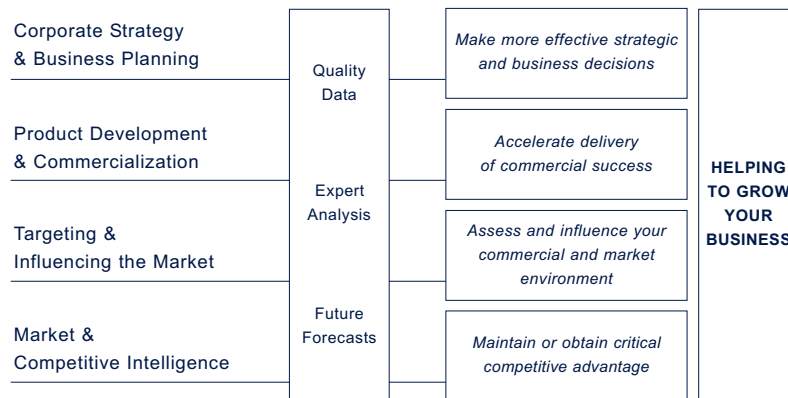
"...One of the hurdles [of repositioning] is actually finding who the right person is to talk to, to try and negotiate the availability of the compound..."



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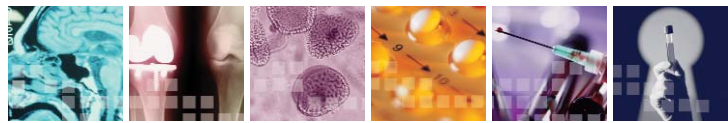


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