

IN brief

Lilly's free web screening



Alan Palkowitz wants to diversify Lilly's discovery strategy

Eli Lilly has activated a new web-based tool for lab researchers to submit compounds for testing in four disease areas: Alzheimer's disease, angiogenesis, diabetes and osteoporosis. The Indianapolis-based pharma hopes this free initiative, called Phenotypic Drug Discovery (PD2), will generate

novel leads that could form the basis of future collaborations and licensing agreements. Contributing researchers, or their institutions, will maintain all rights to the submitted compounds, whereas Lilly gets first rights to negotiate a collaboration or licensing agreement. Molecules that make it through an initial set of criteria undergo a series of assays to determine biological activity in each of the four disease areas. This is followed by secondary assays designed to probe the biological mechanism. In angiogenesis, for instance, a secondary assay determines whether the compound influences any kinase signaling pathway. Results from these tests are compared to standard compounds, which act as positive controls. New entities that differentiate themselves from those controls, either through unique structures or biochemical mechanisms, would be candidates for licensing or a collaboration agreement, says Alan Palkowitz, Lilly's vice president of discovery chemistry. Researchers receive in-depth reports of the results from each disease module, and can use or publish that data in any way they choose, regardless of the outcome of negotiations. The emphasis on phenotypic assays is an extension of Lilly's own internal program, "We're really trying to maximize that investment [in phenotypic assays]," says Palkowitz. Phenotypic assays can reveal activities that may be missed with target-based assays, he adds. That's especially true with academic compounds that are often based on natural products and may have broad-spectrum activities. "I think the standard fluorescence-based high-throughput screen is not as meaningful for our compounds," says Peter Wipf, professor of chemistry and pharmaceutical sciences at the University of Pittsburgh, Pennsylvania, who consulted with Lilly during the design and development of PD2. PD2 has good potential to jumpstart research, says Lesa Mitchell, vice president with the Ewing Marion Kauffman Foundation in Kansas City, Missouri, which focuses on entrepreneurship and has its own iBridge Network designed to provide web-based information on early-stage academic research for entrepreneurs, industry representatives, and academics to access. "The more we see sharing of compounds, the more we're going to advance commercialization," says Mitchell. She is also impressed by Lilly's commitment as evidenced by presentations and outreach. "[They are] really taking this seriously."

Jim Kling

Table 1 How nations across the globe are supporting biotech

Country	Type of aid	Scope	Amount	Timing
Australia	R&D refundable tax credits, plus new venture capital follow-on fund and new direct funding	Innovation	AUD\$1.5 billion (\$1.1 billion)	Announced May 2009
USA	Extra R&D funding via NIH grants (under Economic Stimulus Act) plus extra funding for FDA to speed approvals	All medicine	\$8-\$10 billion	Announced Feb 2009
UK	New Strategic Investment Fund to co-invest with venture capitalists	All strategic innovation	£750 million (\$1.23 billion)	Announced April 2009
Norway	R&D contracts for health sector; improved tax breaks for SMEs; additional state-backed debt financing; extra state investing in private venture capital funds to support life science companies	Mostly life sciences	£400 million (\$657 million)	Announced Jan 2009
Malaysia	Economic stimulus package	General industry	\$16 billion	Early 2009
China	Development funding	Technology	\$9.2 billion	Spread over two years starting May 2009
France	Strategic Investment Fund in partnership with the biotech industry body	General industry	€6 billion (\$8.2 billion)	Announced June 2009
India	Biotechnology Industry Partnership Programme for public-private R&D funding partnership	Biotech only	\$72 million	Two tranches: Dec 2008 & May 2009

SME, small to medium-sized enterprises.

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capital fund Argentum has also been granted an extra £200 million.

"We know of no other national initiatives and the [financing] problem is getting quite urgent," says Carrez. In early June, France's Strategic Investment Fund (Fonds Stratégique d'Investissement, FSI) came to the aid of the country's biotechs, setting up a partnership with the industry body France Biotech, to consider how best the fund can support the sector. FSI is a €6 billion fund set up on December 19, 2008 to invest in companies with the potential to contribute to the growth and competitiveness for the French economy, though it is still unclear how much of this stimulus package will be invested in the sector.

What EuropaBio wants above all is to make direct European Commission funding more accessible to biotech startups. "The European

Investment Bank's [EIB] rules at the moment are such that biotechs cannot benefit," says Carrez. "They won't lend to a company before it reaches breakeven." EuropaBio also wants the EIB to launch a short-term investment vehicle to increase risk capital for venture capital firms, either by providing them cash directly or by co-investing with them in biotech startups.

Australia is an exception to the general paralysis. After intensive lobbying by trade association AusBiotech, the federal government announced a budget in May promising AUD\$83 million (\$66 million) for a venture capital follow-on fund and AUD\$1.5 billion (\$1.1 billion) worth of R&D tax credits focused on small companies.

AusBiotech's chief executive officer Anna Lavelle says these measures are a "resounding win for the biotech sector" and will provide

SELECTED research collaborations

Partner 1	Partner 2	\$ (millions)
Bayhill Therapeutics (San Mateo, California)	Genentech (S. San Francisco, California)	350
Cancer Research UK/Institute of Cancer Research (London)	AstraZeneca (London)	8.8
ProteoNic (Leiden, the Netherlands)	Genencor (Rochester, New York)	*

*Financial details not disclosed.