Zhou N. *et al.* have now investigated the potential use of small interfering RNAs (siRNAs) targeted to CXCR4 to inhibit HIV-1 fusion [4]. SiRNAs are double-stranded RNAs of 21–25 nucleotides that can silence genes in a sequence-specific manner and at a posttranscriptional level. The authors use siRNAs with homology to a motif in the mRNA encoding for CXCR4 chemokine receptor. They first show by fluorescent microscopy and fluorescence-activated cell sorting (FACS) that the expression of CXCR4 is downregulated at the surface of cells transfected with the specific siRNAs. This inhibition is specific, as siRNAs targeting CXCR4 have no effect on the expression level of CCR5 and CD4, and because the use of siRNAs targeted to other chemokine-receptor sequences has no effect on CXCR4 expression level.

Next, the authors evaluated the ability of CXCR4 siRNAs in blocking CXCR4- and HIV-1 gp120-mediated cell membrane fusion, using a luciferase-based cell–cell fusion assay. Transfection of CXCR4 siRNAs resulted in the specific inhibition of CXCR4 coreceptor activity, both for CXCR4-tropic and dual-tropic (CXCR4 and CCR5) HIV-1 isolates. SiRNAs targeting CXCR4 mRNA had no effect on CCR5 coreceptor activity. CXCR4 siRNAs can inhibit cell-free virus infection but less effectively than cell–cell fusion.

This study shows the potential use of siRNAs as a therapeutic approach to alter the infection process of human cells by some HIV-1 strains. Whether this approach will be efficient in inhibiting HIV-1 infection in peripheral blood, lymphoid tissue and other sites like the central nervous system remains unknown. Finding a suitable and efficient *in vivo* siRNAs delivery system to treat HIV-1 infected patient will also be required.

4 Zhou, N. *et al.* (2004) Inhibition of HIV-1 fusion with small interfering RNAs targeting the chemokine coreceptor CXCR4. *Gene Ther.* 11, 1703–1712

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Business

Collaborations

Agilent Technologies and ExonHit Therapeutics to collaborate

Agilent Technologies (http://www.agilent.com) and ExonHit Therapeutics (http://www.exonhit.com), a private drug discovery company, have announced a research collaboration to combine Agilent's microarray platform and ExonHit's alternative RNA-splicing technologies and expertise. This collaboration explores the development of a microarray-based solution that will enable scientists to properly monitor the expression of splice variants.

Splice variants are variable sequences of RNA produced from the same gene in DNA, resulting in the creation of different proteins potentially affecting cellular regulation. Scientists developing therapeutics are increasingly interested in this emerging field as the expression of splice variants can provide novel targets, could indicate disease states, and can be altered by exposure to drugs and toxins.

Agilent and ExonHit are working together to optimize microarray design, reagent protocols and data analysis methods for splice variant studies. As a pioneer in alternative RNA splicing, ExonHit realized that the proper characterization of splice variant expression required dedicated profiling platforms. The company has received notice of the allowance of its patent, which broadly claims nucleic acid arrays that enable the detection of alternative RNA splicing events via either intron or exon and splice junction-specific probes.

Initial results from an experimental splicing array of G-protein coupled receptors, designed by ExonHit and produced by Agilent pursuant to the collaboration, were presented at Splicing 2004, an annual symposium on alternative RNA splicing, by Richard Einstein, Vice President of R&D North America at ExonHit. The array detected multiple isoforms of several genes, and showed good reproducibility and specificity. The companies are expected to work with early test sites to generate additional experimental results.

Sigma-Aldrich and Procognia commercialize functional human protein arrays

Sigma-Aldrich Corporation (http://www.sigmaaldrich.com) and Procognia (http://www.procognia.com) have an exclusive agreement that calls for Sigma-Aldrich to market novel arrays of functional human proteins developed by Procognia. This agreement will significantly expand Sigma-Aldrich's pipeline of products for the advancement of proteomic research.

Procognia has developed a proprietary tag technology to create the first arrays of biologically-related human proteins that retain their native functions in the array format. The first protein array in the pipeline of products will contain wild-type human p53 and its important germline SNP variants. Procognia's functionally arrayed SNP variant proteins will be the first tool that enables researchers to investigate the mechanism of cancer progression on many proteins in parallel.

David Harvey, Chairman and CEO of Sigma-Aldrich, remarked, 'I am pleased that Sigma-Aldrich will have the opportunity to exclusively market a product with the power to finally deliver functional arrays of human proteins. This proprietary technology represents a significant advancement over existing protein array technologies, which do not orient nor confer functionality of proteins on the array.'

Ron Long, Procognia's CEO and former CEO of Amersham Pharmacia Biotech, said, 'Sigma-Aldrich is emerging as the strongest force in leading edge proteomic tools for the life sciences market today, and I feel that they are the best partner for Procognia's protein function arrays. With the human p53 SNP arrays, we will mark a first in functional protein array development and open the door for rapid uptake of the future protein array products that will follow.'

IMS announces agreement with European Generic Medicines Association

IMS Health (http://www.imshealth.com) today announced an exclusive data and knowledge sharing agreement with the European Generic medicines Association (EGA; http://www.egagenerics.com) to advance the quality of healthcare decision-making by government and industry

1359-6446/04/$ – see front matter PII: S1359-6446(04)03178-2

stakeholders. Under the agreement, IMS will provide the EGA with European generic drug sales information from its MIDAS database, which tracks 90% of prescription drugs in more than 80 countries. In addition, IMS will support the work of the EGA with expert opinion and consultative insights. IMS will be given access to EGA's generic industry information and expertise, supporting and validating the company's development of new offerings for the generic sector. The EGA is the official representative body of the European generic pharmaceuticals industry, which is at the forefront of providing high-quality affordable medicines to millions of Europeans.

'This new collaboration will help IMS better serve our generic clients in Europe with innovative offerings, and give the EGA access to third-party, independent data and advice needed to support its critical consultative role in European healthcare policy-making,' said Gilles Pajot, President, IMS European Region. 'The result will be greater access to accurate, standardized and timely generics information, which will strengthen working relationships among all generic stakeholders.'

'This agreement with IMS will enhance our ability to play an effective part in the European healthcare policy decision-making process and underline the great importance of generic medicines,' said Greg Perry, Director General of the EGA. 'We continue to work closely with European national governments and EU institutions to develop affordable solutions for pharmaceutical care, and IMS's insights and data will help us strengthen Europe's competitive position within the global pharmaceutical medicines market.'

Anniversaries

EMBO, EMBC and EMBL celebrate their anniversaries

Three leading European lifescience organisations based in Heidelberg, Germany have celebrated important anniversaries in November at a joint event. The European Molecular Biology Organization (EMBO; http://www.embo.org) was established 40 years ago, the European Molecular Biology Conference (EMBC; http://www.embo.org/embc) is 35 years old, and the European Molecular Biology Laboratory (EMBL; http://www.embl-heidelberg.de) turns 30.

To mark these anniversaries, the organisations and their staff have invited prominent scientists, policy-makers and political authorities to participate in a reflection on the future of life sciences in Europe. Celebrations took place at Mannheim's Rosengarten, where guests were treated to a banquet dinner with musical interludes.

The joint event symbolizes the close cooperative relationship and the common history of the organisations. In the 1960s, scientists from across Europe expressed a great interest in establishing an international laboratory for molecular biology; at the same time they recognized an urgent need for more international training and scientific exchanges. In 1964, EMBO was created to answer these needs and strengthen molecular biology research throughout Europe. EMBO's initial activities included providing fellowships for European scientists and laying the groundwork for a European laboratory. The EMBC was founded five years later as an inter-governmental organisation to bring together European governments to provide stable funding for EMBO's fellowship and training programmes. In 1974, their joint efforts culminated in the signing of an inter-governmental treaty to establish the laboratory (EMBL).

Since its foundation, EMBO has become recognized as one of the foremost life sciences organisations in Europe. Today, with the support of EMBC's 24 member states, EMBO offers a highly respected programme of activities throughout Europe and beyond promoting research, training, career development, mobility, publication standards, communication and networking.

EMBL is one of the leading research institutes in the world, with over 1300 staff members working at five campuses in four countries. 'This landmark occasion is as much about the present and the future as it is about the past,' comments Frank Gannon, Executive Director of EMBO and Secretary General of EMBC. 'It not only marks the combined role of EMBO, EMBC and EMBL in the transformation of the life sciences in Europe but also looks ahead to the continued impact of all three organisations on the current European research environment and the advancement of quality-driven research in Europe.'

Business was written by
Matthew Thorne

People

Appointments

NHGRI names new chief of Cancer Genetics

The National Human Genome Research Institute (NHGRI; http://www.genome.gov/) has named Elaine A. Ostrander as the new chief of its Cancer Genetics Branch, one of the seven research branches in the Division of Intramural Research. In its short, 10-year history, the NHGRI Intramural Program has emerged as one of the premier research enterprises working to unravel the genetic basis of human disease.

'Dr Ostrander brings a combination of expertise and vision in multiple areas of genetics, genomics and cancer biology to the Institute. Under her energetic leadership, the Cancer Genetics Branch will have unprecedented opportunities for elucidating the molecular underpinnings of cancer, and for developing new diagnostic and therapeutic approaches for the care of cancer patients,' said NHGRI Scientific Director Eric D. Green.

Ostrander comes to NHGRI from the Fred Hutchinson Cancer Research Center (FHCRC; http://www.fhcrc.org) in Seattle, where for more than a decade her laboratory has been a leader in mapping genes responsible for cancer susceptibility in dogs and humans. Cancer is the No. 1 killer of dogs, and the clinical presentation, histology and biology of many canine cancers closely parallel those of human malignancies. Consequently, comparative genetic studies of canine and human cancers should yield significant clinical benefits for both species.

'Because human families are small, it's difficult to use them to discover the many genes involved in cancer. However, dog families, with their larger size, give us the advantage of being able to find many more of the genetic contributors to disease, particularly cancer,' Ostrander said. 'By using dogs as an animal model and comparing what we learn in them to

1359-6446/04/$ – see front matter PII: S1359-6446(04)03186-1