



### RNA INTERFERENCE

*RNA interference, or RNAi, is a naturally occurring mechanism within cells for selectively regulating, or silencing specific genes. Since many diseases are caused by the inappropriate activity of specific genes, the ability to silence and regulate such genes through RNAi is thought to provide a means to treat a wide range of human diseases. RNAi discovery and probable therapeutic uses are called by the journal Science "the top scientific achievements of 2002 as well as one of the top 10 scientific advances of 2003 " Many firms are specialized in iRNA technology. A whole article will be posted on the subject highlighting the most promising firms.*

### **IN THE NEWS** **ALNYLAM (ALNY)**

**Alnylam Pharmaceuticals (ALNY)** announced the allowance of broad claims from the European Patent Office for a new patent (EP Patent No. 1352061) covering small interfering RNAs (siRNAs), the molecules that mediate RNA interference (RNAi). The new "Kreutzer-Limmer II" patent, which Alnylam acquired in the July 2003 merger with Ribopharma AG, includes allowed claims that cover therapeutic compositions, methods, and uses of siRNAs and derivatives directed toward over 125 disease targets.

**Kreutzer-Limmer II patent** covers 103 allowed claims on therapeutic compositions, methods, and uses comprising siRNAs that are complementary to all mRNA sequences in over 125 disease target genes. These genes include targets that are part of ongoing Alnylam development and pre-clinical programs, such as those involved in the **VEGF pathway** and those expressed by viral pathogens including **RSV and influenza virus**. In addition, the claimed targets include **oncogenes, cytokines, cell adhesion receptors, angiogenesis targets, apoptosis, cell cycle targets** and viral disease targets such as HCV and HIV. Alnylam attracted **Merck, Medtronic, Nastech, GeneCare Research Institute, Benitec, Invitrogen, Sigma-Aldrich, Ambion** and others

*Alnylam's intellectual property estate is comprised of patents and patent applications that claim the broad structural and functional properties of synthetic RNAi products. These include the Kreutzer-Limmer I patents, also acquired through the Ribopharma merger: EP Patent No. 1144623, covering siRNAs having a sequence complementary to a target gene of up to 25 nucleotides in length; and EP Patent No. 1214945, covering compositions, methods, and uses of siRNAs with a length between 15 and 49 nucleotides. Additional fundamental patents and patent applications licensed to Alnylam on an exclusive or non-exclusive basis include those of Crooke (US Patent No.'s 5,898,031 and 6,107,094), Fire and Mello (US Patent No. 6,506,559), Glover et al. (EP Patent No. 1230375), Tuschl et al. ("Tuschl 1" and "Tuschl 2", patents pending), amongst others.*

**PROHOST** is following up on this technology as we believe it will yield breakthrough far-reaching products.

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