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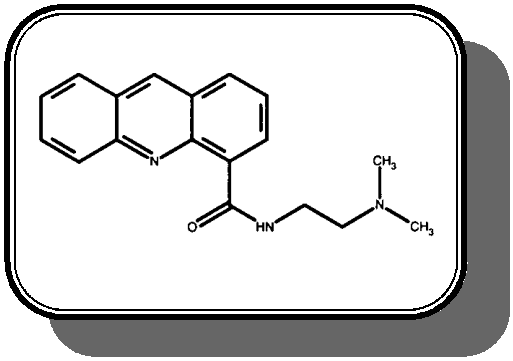
DRUG PATENTING IN CONTEXT

Current Patents *Gazette* is the most rapid competitive intelligence service covering innovation in the pharmaceutical industry. Patent applications published during the past week have been classified and analysed, in order to place the inventions in context. For the most crucial innovations, those involving new chemical compounds, additional information is given in the form of front page images. These can be enlarged to show details of chemical structures and inventor teams, for example. Applications filed jointly, representing collaborative research, are highlighted, as are sequences of inter-related documents.

This week, Xenova sees the patent position of its phase II anticancer agent XR-5000, initially developed by the Auckland Cancer Research Laboratory, strengthened by the grant of EP642343B in Europe covering this acridine derivative



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HIGHLIGHTS THIS WEEK

SmithKline Beecham has two PCT applications published with titles employing a total of only seven characters, namely **Q13** and **tktA**. Both of these enigmatic documents in fact refer to the **polypeptides**, and to the **polynucleotides** which encode them, and their ultimate use is in screening for **antibacterial compounds**. Not only are the titles terse, but the lists of designated states could hardly be shorter; in both cases SB has elected to designate only Japan and Europe for protection, indicating that this technology belongs to that very clearly defined subset of the company's portfolio which relates to discovery infrastructure rather than potential commercial products. Though the two cases are clearly very similar in nature, and have been filed by the same external attorney, the eleven inventors fall into two non-overlapping teams. Three of the Q13 inventors are based in the UK, north of London.

The University of California has a PCT application published this week in which protected **aminoacids for use in dipeptide synthesis** are described. It is not included in the *Gazette* however, since it first appeared towards the end of July as **US6093831**. At that time we failed to note that there was Korean input into the project, but now from the PCT document (which cites the full address of each inventor) it is clear that the external input comes from the **CKD Research Institute** in Chungcheongnamdo. This is the research site of **Chong Kun Dang**, a prolific innovator, but one not hitherto associated with the University's work.

Meningitis remains both a challenge to scientists and a subject of popular concern, and two inventions this week describe further progress in the development of effective vaccines. Workers at **Chiron SpA**'s Siena site are seeking to enhance the immunogenicity of vaccines against ***Neisseria meningitidis*** by the use of an antigen comprising an oligonucleotide containing at least one CG motif. From a review of Chiron's activity in this field to date it is clear that meningitis vaccine development is a major, long-term target. The ten international patent applications published over the past three years show substantial input from both Siena and Emeryville, sometimes jointly. In two instances there has been further external input, from the **Institute for Genomic Research** in Maryland (WO9957280) and from the **Statens Institutt** for Folkehelse in Norway (WO9961053). A triple collaboration is also seen in a British contribution to the subject, involving principally the **Microbiological Research Authority (CAMR)**, but also the **Imperial College School of Medicine** and the Public Health laboratory Service in London.

As early as 1994 there were reports of an anticancer drug designated **XR-5000** entering clinical trials in New Zealand. Patent protection for that candidate, an acridine derivative now in phase II trials with Xenova, is further consolidated this week with the grant of **EP642343B** to Xenova. The original application, naming five New Zealand inventors, was filed in January 1993 and first appeared as WO9324096; grant in the US was achieved in 1997 (US5696131). This eight-year patenting saga reveals the true origin of XR-5000, which began as the property of the **Auckland Cancer Research Laboratory**, which granted development rights to **Cancer Research Campaign Technology**, and they in turn to Xenova.

Biotech inventions classed in IPC **C12n** clearly **outnumber** alicyclic and heterocyclic inventions combined, in this week's **published PCT applications**. Among the **granted European patents**, however, the **contrary is true**, with only a single fermentation case from **Roche** achieving grant this week. This casual observation serves to demonstrate the highly speculative nature of many of the biotech applications filed, and the relative difficulty of getting claims allowed in areas of rapidly evolving technology.