

Current Patents Gazette

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DOLPHIN



The records appearing in this Gazette will be added to DOLPHIN, the database Of all pharmaceutical inventions in the next week. Based on the INPADOC database produced by the European Patent Office, it covers all national and international patents with relevance to pharmaceutical research and development published from 1968 onwards and selected patents from earlier years. DOLPHIN contains information on bibliographic data, contents, associated products, legal status, licensees and context of patents, which is presented in a format to convey all aspects of a patent at a glance.

News & Highlights from Week 0643

The PDJ this week (No. 6127) reports that The **US Government's** SPC for **didanosine** entered into force on the 22nd August 2006. Didanosine (Videx) is a synthetic purine nucleoside analog with antiviral activity that has been developed and launched by **Bristol-Myers Squibb Co** (BMS) in 1991 and is marketed in three different formulations: as an oral solution; as a reduced-mass tablet; and, as an enteric-coated capsule formulation. According to our *Strategic Drugs Database (SDdb)* net sales are reported for Videx/Videx EC as having totalled \$174.0 million, but that sales figures were set to decline following expiry of the patent in Aug 2006. BMS acquired exclusive rights to this product from the National Institutes of Health in the early 1990s; the license became non-exclusive in October 2001 and in Dec 1996 **Ajinomoto Co Inc** had established a manufacturing agreement for didanosine. The UK SPC for didanosine is based on **EP0216510**; other SPCs that have been granted based on this EP include Netherlands, Belgium, Italy, Luxembourg, Sweden, Austria and France. The FDA orange book lists **US4861759** and **US5254539** against Videx EC (delayed release capsule); both expired at the end of Aug 2006, but both have been granted pediatric exclusivity, which runs to March 2007. In addition to these patents **US5616566** and **US5880106** are listed in the FDA orange book for the oral solution and tablet forms respectively.

Also reported in the PDJ this week was that **the US commerce's** SPC for **zalcitabine** also entered into force on the 21st August 2006. Zalcitabine (Hivid) is a reverse transcriptase inhibitor, developed by the NIH, which was licensed to, and launched by, **Roche** for the treatment of HIV infection. It was approved in the US in 1992 under accelerated approval regulations, which required further efficacy data. Full approval as a monotherapy for HIV

was recommended in 1993. The SPC is based on **EP0216511**; other SPCs granted based on this EP include Austria, Belgium, China, Netherlands, France and Luxemburg. The FDA orange book lists **US4879277** and **US5028595** for Hivid.

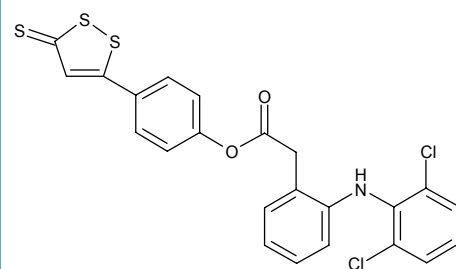
The PDJ also reported the expiration of **Warner-Lambert's** SPC on **moexipril** on the 30th September 2006. Moexipril is an ester prodrug of the ACE inhibitor moexiprilat, which has been launched by **Schwarz Pharma** as an antihypertensive agent in the US, Europe, S America and Asia. The SPC was based on **EP096157**, which was also used as a basis for SPCs granted in France, Netherlands, Italy and Austria; **DOLPHIN** reports that the former two SPCs for France and the Netherlands were also due to expire on the same day as the present UK SPC, while the later two SPCs expired on the 01st October 2006. This EP also covers **quinapril**, but term extensions for this product were based on an equivalent EP, **EP49605**, and expired in April 2004.

Wyeth Holdings have also filed an application recently requesting an SPC for **tigecycline** on **EP0536515**, although this has not yet been published in the PDJ. Marketed as **Tyagacil**, the product was launched in the US in July 2005 for the treatment of complicated intra-abdominal infections (cIAI) and complicated skin and skin structure infections (cSSI) and gained EU approval in April 2006.

The new **EU regulation on medicinal products for paediatric use** has passed its final legislative hurdle. Following the approval of the compromise package by the European Parliament at its 2nd reading, the Council's Permanent Representatives Committee (Coreper 1) approved the draft regulation at its meeting on 18th October. The new regulation was presented two days later for information

and formal approval by the Council at the 2757th session held in Luxembourg on October 20th and is currently awaiting signature by the Presidents prior to entry into force. As in the US, the scheme provides an extra 6 months paediatric exclusivity, which in the European case, is added to the appropriate patent or SPC as an incentive for performing appropriate paediatric testing of new drugs. It also provides transitional arrangements and rewards for performing testing on already marketed drugs.

In advance: Due to All Saints Day issue 0644 of *Current Patents Gazette* will not contain any European application data; instead, these will be published the following week in issue 0645 of CPG.



The second PCT application to emerge from CTG Pharma: Novel NSAID conjugates comprising a COX1 inhibitor, preferably diclofenac and a H2S-releasing moiety.

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UK initial ("A0") applications filed September 13th - 19th 2006

In what appears to be the first indication of their cooperation, **Artemis Pharmaceuticals GmbH** and **Haptogen Limited** are jointly applying to protect a **method and model for testing immunogenicity**. While the German company is now part of the **Exelixis** group, Haptogen has strong links with **Aberdeen University**.

Asterion Limited, claiming a growth factor, is a spin-out from **Sheffield University**. All seven of the company's published PCT applications, predominantly on the subject of **cytokine variant polypeptides**, name CSO **Professor Richard Ross** as an inventor.

Though claiming to be North America's biggest supplier of Canadian yew, biomass specialist **Chatham Biotech Limited** is now turning its attention to chemical synthesis, with claims to a **one-pot synthesis of taxane** derivatives, and their conversion to **paclitaxel and decetaxel**. **Phylogen Life Sciences Inc** is among those already demonstrating an interest in the **semi-synthesis of taxoids**, for example in **WO2006004708**. In view of its current focus on agricultural production, it is unlikely that Chatham has substantial in-house chemical development capability, and so it will be interesting to see where the expertise has been acquired for the present pair of patent applications.

The **Babraham Institute** is an educational charity devoted to biomedical research and training, to understand biological events that lie behind normal and abnormal functions of cells. Their research focuses on cancer, Alzheimer's, fetal abnormality and rheumatoid arthritis. They have recently filed an application vaguely titled "compounds".

Cancer Research Technology Limited has filed an application titled "Enzyme II". Recent filings by them relate to polypeptides with enzyme activity (methyl transferase) that act as therapeutics and diagnostic targets for cancer. However most of their recent work revolves around the use of protein kinase inhibitors. They are currently in collaboration with **Astex Technology** and **The Institute of Cancer Research** investigating such inhibitors.

Genophrenix Limited has filed an application entitled 'markers for disease'. The company was established in February 2006, based on the work of **Dr Jamal Nasir**, of the **University of Sheffield Medical School**. The company was set up to capitalize on the discovery of specific proteins involved in pathways including the **dopamine signaling pathway**, implicated in neuropsychiatric diseases and schizophrenia and aims to develop compounds to treat schizophrenia, and provide commercially viable licensing opportunities to the global pharmaceutical industry.

K.U. Leuven Research & Development has filed an application for novel therapies related to chemokines. The university's published PCT applications relating to chemokines include WO02059301, claiming truncated chemokines exercising a negative action on CXCR3-mediated inflammation for the treatment of cancer, rheumatoid arthritis, and skin diseases and WO02066510, claiming Regakine-1, a novel human chemotactic cytokine (chemokine) that attracts both neutrophils and lymphocytes but not monocytes or eosinophils. **Jozef Van Damme** is named as an inventor on both applications.

John Morley has filed for the improved use of anti-inflammatory glucocorticosteroids. A previous patent assigned to Sepracor from this inventor (US6589508) claimed the use of (R,R) formoterol, a glucocorticosteroid, for treating asthma and bronchitis.

Dr **Patrick T Pendergast** has filed an application this week for compositions and methods for the treatment of disease. Dr Pendergast is named as inventor on over twenty applications filed over the past twenty years, most of which relate to antiviral therapy (for example **WO0109118**), including an initial UK filing in May 2006 for influenza therapy. However, applications seem to cover a variety of indications including cancer (**WO02069949**) and blood cell deficiencies (**WO02069977**).

Dr Pendergast and his company, **Colthurst Limited**, have developed several drugs to treat HIV including **HE-2000** (first claimed in **US4956355**), which was licensed to **Hollis-Eden**, a company based on pioneering research conducted by Dr Pendergast to develop treatments for immune disorders. These antiviral drugs were the subject of a dispute between the inventor and the two companies which was resolved in 2005. As a result of the proceedings, Hollis-Eden acquired exclusive rights to file and maintain all patents resulting from the License Agreement, while Colthurst was prohibited from conducting research and commercialization relating to these compounds or technology.

Serono, using the name **Ares Trading SA**, has filed an application relating to **FHR-4A splicing variants**, apparently a re-filing of a case bearing the identical title and filed in February 2005. If this is so, the timing of the application is rather puzzling: A "complete" application filed at the beginning of February 2006 would have allowed the application to proceed, or one early in August would have anticipated publication of the first one, had it been used as priority for a PCT application. The first application was in fact terminated, and the process seems to have been initiated all over again. It is tempting to speculate that this sequence of events is related to the stop-start **acquisition events** in which the Swiss company became involved during the early part of 2006.

The **University of Sheffield** has filed an application this week for cancer treatment. **Professor Rob Coleman** leads the university's Cancer Research Center, which focuses on cancer-induced bone diseases. Recent publications disclose the specific killing of BRCA2-deficient tumors with inhibitors of poly(ADP-ribose) polymerase (PARP1), see WO2005012305.

Due for publication in March 2008