

# 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 0646

As previously reported in the *Current Patents gazette issue 0643*, Wyeth Holdings Corporation has lodged an SPC for **Tigecycline** based on **EP0536515**, which has now been published in the UK Patents and Designs Journal (PDJ No. 6130). If granted this SPC will afford further protection until August 2017. 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 (cSSSI) and gained EU approval in April 2006. In May 2006, EU approval was granted and launch was to take place throughout 2006 and 2007, starting with Germany and Austria.

The PDJ also reports that the **Sloan-Kettering Institute** for cancer research has lodged an SPC covering the purine nucleoside, clofarabine; this was reported ahead of publication in the *Current Patents gazette issue 0644*. Based on **EP0219829**, this SPC should provide protection until October 2011 if granted, despite having only been filed five days prior to the lapse of this patent. Further to the previous report on this SPC application in *CPG issue 0644*, EP0219829 covers the product only in a limited number of EU states: Great Britain, France, Spain and Germany, while **WO9014352** (assigned to the **Southern Research Institute**), which also covers the product, designates other states. A French SPC application was filed on the 8<sup>th</sup> October, just a few days prior to the UK SPC, for clofarabine that was based on the same EP as reported in *Les Bulletins officiels de la propriété industrielle (BOPI) issue 0646*. With patent protection having lapsed in Spain, this only leaves the German designated state in contention, regarding whether provision of further protection will be granted in the form of an SPC, as no patent extension has been reported as lodged just yet.

The *Current Patents gazette issue 0644* also reported that **NPS Allelix Corp.** was seeking

SPC protection for an injectable formulation of recombinant human parathyroid hormone (PTH), based on **EP1079803**, which has now been published in the PDJ this week. If granted this should provide additional protection until April 2021.

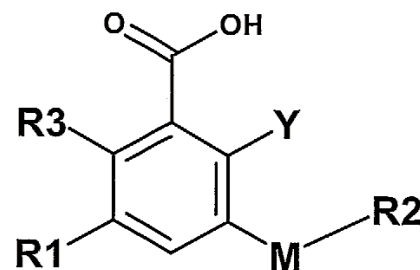
The PDJ also reports that SPCs have entered into force for Dainippon Pharmaceutical's **sparfloxacin** and **orbifloxacin** based on **EP0221463** and **EP0375658** respectively. Both drugs are quinoline DNA gyrase inhibitors targeted at combating bacterial infection; however, sparfloxacin has been developed for the human pharmaceutical market while orbifloxacin exhibits success in the veterinary field. The SPC for sparfloxacin entered into force on 22 October 2006 and should expire on 06 January 2009. The SPC for orbifloxacin entered into force on the same day as sparfloxacin but should run until October 2011.

Ahead of publication in the PDJ, **Merck & Co** has lodged an SPC based on **EP0651789** on the 8<sup>th</sup> November 2006, which covers the method of producing a vaccine using a live attenuated varicella-zoster virus (VZV), particularly the Oka strain. This EP would appear to cover a process for making **Varivax**, covered as a product by granted **EP0261634** and which Merck & Co in collaboration with **Aventis Pasteur MSD** (now sanofi-aventis) have co-developed and launched for the treatment chickenpox. If granted this SPC should afford further protection until July 2018.

**MNL Pharma** has filed an application for antimyotic agents. The company is currently developing **MNLP-24**, a plantderived immunostimulatory imino sugar that stimulates C-type lectins, as a potential vaccine adjuvant and **MNLP-462a (3-epi-casuarine)**, an orally active immunostimulatory imino sugar isolated from a plant source, for the potential treatment of cancer. In February 2006, MNL Pharma announced an exclusive license for **Avexa** to

develop and commercialize a number of HIV Integrase Inhibitors identified from MNLpharma's Phytopure™ library.

**Peakdale Molecular** has lodged an application entitled "Compounds". Peakdale is a drug discovery company providing custom synthesis and contract research services, headquartered in the UK, with a branch in Wilmington, DE. The company's only published patent application, **WO2006059103**, also entitled "Compounds", discloses pyridine compounds for use as intermediates. Peakdale has entered into collaborations with **GSK** and **De Novo Pharmaceuticals**. In January 2006, the company completed a GPCR collection (**peakexplorer™**) comprising 6,500 fully characterized and purified, drug-like compounds.



**AstraZeneca claimed their first benzoic acid derivatives as positive glycine receptor modulators for the treatment of pain in WO2006121390 and WO2006121391**

## UK initial ("A0") applications filed October 3<sup>rd</sup> – 10<sup>th</sup> 2006

**Ark Therapeutics Ltd** has three applications this week, all entitled compounds and their use. This may be a new research for the company, which appears to specialise in the more biotech-based areas. Ark's only small-molecule therapy to date appears to be **Vitor (EG006)**, a treatment for cancer-related cachexia currently in Phase III development.

Birkeland Innovasjon AS is the technology transfer office of the University of Oslo, and has now filed to protect a method for treatment of insulin resistance. The university's interest in this field is signalled by **WO20058532**, where we noted that **AstraZeneca** was drawing on academic expertise in stimulation of pre-adipocyte differentiation in its work on treatment of insulin resistance with **darglitazone** and similar agents.

**Chroma Therapeutics Ltd** is seeking protection for an application entitled enzyme inhibitors. This may follow on from **WO2006117549** of the same title, claiming **histone deacetylase** for the treatment of cancer. As of November 2006, Chroma was at the lead optimisation stage for investigating HDAC inhibitors in oncology and inflammation, and had the aminopeptidase inhibitor **CHR-2797** in Phase I for solid and hematological tumors.

An earlier case from **E2V Biosensors Limited (WO2006095181)**, now assigned to E2V Technologies, related to metallocene labels for biomolecules. The company has now filed an application to protect a molecular detector arrangement. Based in Chelmsford, UK, the company operated until July 2002 as Marconi Applied Technologies, but owes its present name to the former English Electric Valve Company, established in 1947 and at one stage owned by **General Electric**.

The **National Institute of Advanced Industrial Science and Technology, Katayanagi Institute** and **Toppan Printing Co., Ltd.** have filed an application for a method of separating biomolecules using a micro flow channel chip. In September 2005 these applicants filed a very similar application, see **WO2005084794**.

Oxitec Limited founded in 2002 based on the work of a researcher at **Oxford University, UK**, has filed an application for methods of amplifying and detecting nucleic acids. This applicant published **WO2005003364** in January 2005 claiming stable integrands for transforming organisms, in particular insects. Oxitec is focused on biological insect pest control, which is beneficial for agriculture and public health.

**PLIVA** has filed initial applications for polymorphic forms and a formulation of **pregabalin**, and for a composition of **risedronate**. The company does not appear to have any published applications on these compounds, although a solid-state formulation of alendronate was claimed in **WO2005035542**. The acquisition of PLIVA by **Barr Pharmaceuticals** was completed recently, on 25 October 2006, with Barr now owning over 95% of PLIVA's voting share capital.

**SingVax Pte Ltd**, a Singapore-based technology company with a focus on vaccine research, has lodged a cluster of five applications on vaccines. These may relate to two products currently under investigation. One is an **enterovirus 71 vaccine** for the prevention of hand, foot and mouth disease, designed to be administered to children before they enter childcare centers. The other is a Japanese encephalitis vaccine, **OctoVAX-JEV**, a single-shot controlled-release vaccine that SingVax is investigating in collaboration with **OctoPlus**. The vaccine incorporates **Crucell's PER.C6** technology. In September 2005, the companies planned to take the vaccine into the clinic in the next two years.

Syngenta Ltd has three applications this week, two entitled chemical process and one claiming chemical compounds, also assigned to Syngenta Participations AG. These may continue on from **WO2006114572**, claiming a process for the preparation of **azoxystrobin**, and **WO2006003494**, claiming new piperidine derivatives.

The **University of Hertfordshire** is claiming **chitinases** in an application this week. This appears to be the University's first application relating to chitinase.

**Viragen Inc** has three applications this week, entitled IFN $\gamma$ 14 for use as an immunological adjuvant, multisubtype IFN $\gamma$  for use as an immunological adjuvant, and novel IFN $\gamma$  constructs for use in the treatment of cancer. A recent application by Viragen relating to IFN $\gamma$ 14 is **WO2006111745**, claiming a polypeptide having homology with human IFN $\gamma$ 14. In May 2006, Viragen reported that the US Army Medical Research Institute of Infectious Diseases (**USAMRIID**) has commenced a series of in vivo studies in primates to determine the potential of **Multiferon** (Viragen's multi-subtype, natural human IFN $\gamma$ ) as a potent, broad-acting antiviral product capable of fighting certain Category A pathogens, a class of highly virulent viral agents having the potential to be used in biowarfare.

Due for publication in April 2008