

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 0630

The Patents and Designs Journal (No. 6114) contains no pharmaceutical SPC information this week, but reports that **Rhone-Poulenc Agriculture's** SPC for the plant protection products **clodinafop-propargyl**, **isoproturon** and **diflufenican**, has entered into force. The SPC, based on **EP211518**, expires on 9 July 2010.

Prior to its publication in the PDJ, we report that Giles Sciences has filed an SPC for **pegaptinib** (Macugen®), an angiogenesis-inhibiting **anti-VEGF165 aptamer**. The SPC is based on **EP957929**, which discloses vascular endothelial growth factor (VEGF) nucleic acid ligand complexes. If granted, the SPC will extend protection of pegaptinib until January 2021. **(OSI) Eyetech** (formerly Eyetech Pharmaceuticals) and **Pfizer**, under license from **Gilead Sciences** (formerly NeXstar), have developed and launched pegaptanib for the treatment of neovascular (wet) age-related macular degeneration. Worldwide sales of the drug totalled \$87 million in 2005 and according to our **Strategic Drugs database** (SDdb), its market share with respect to the age-related macular degeneration franchise, was about 14% in 2005; **Novartis' verteporfin** (Visudyne®) being the market leader. However, pegaptanib is predicted to dominate the field by 2008.

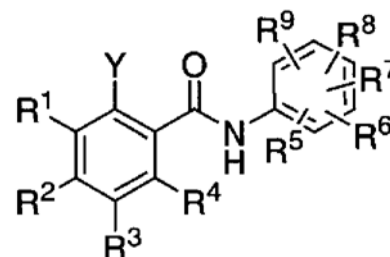
Immtech Pharmaceuticals Inc. announced that the USPTO had issued **US07071338**, equivalent to **WO2004051217** in **ThomsonPharma**. The US granted patent, entitled "process for synthesis bis-aryl diamidoxime compounds", includes pafuramidine maleate (DB-289) and while it remains assigned to the **Univ of North Carolina** at Chapel Hill and **Georgia State Univ** Research Foundation, it would appear that this now makes up part of immtech's patent portfolio despite no report, as yet, of any change in ownership on EPOline. Immtech's first anti-infective drug candidate, developed from its proprietary medicinal chemistry platform, is an oral diamidoxime prodrug of **DB-75**, which acts as a Topoisomerase II/Nuclease inhibitor; Phase III trials are in progress for Trypanosomiasis and

Pneumocystis pneumonia (PcP) as well as Phase II trials being conducted for Malaria.

On the 27th July 2006 the Munich-based drug discovery and development company, **4SC AG**, was informed by the US patent and trademark office (USPTO) that it had been granted **US07071355**. The patent relates to novel heterocyclic amine derivatives as dihydroorotate dehydrogenase (DHODH) inhibitors for the treatment of anti-inflammatory, immunomodulatory and antiproliferative disorders, particularly rheumatoid arthritis as well as compositions containing such compounds. The first reported interest in this mechanism of action came to light with the publication on **WO03006424** and the company has continued to publish on other compounds with this activity, **WO2004056746**, for further information see **DOLPHIN** or **ThomsonPharma**. Although a structure has not yet been disclosed it is probable that this granted application covers the companies lead DHODH inhibitor, **SC-12267**, currently in Phase I development for rheumatoid arthritis (RA) and multiple sclerosis, with Phase IIa RA trials expected to start in 2006. **Serono** was investigating the drug, but all rights were returned to 4SC in March 2005.

Argenta Discovery Limited is seeking protection for **2-oxo-2H-chromene derivatives**, a class of compound that the company seems not to have been involved with to date. However, a clue to this apparently new direction appeared recently in our sister-publication *Current Opinion in Drug Discovery and Development (CODDD)*. **Schering-Plough's Dr M. McBriar** offers a detailed review of advances in the discovery of **melanin-concentrating hormone receptor (MCHR) antagonists**. This mechanism, with potential in obesity therapeutics, has twice featured in Argenta's small patent portfolio. The team have since turned their attention to histamine H₄ antagonists, but the newly filed application indicates that MCH research continues. Justification for this view comes from the review

already referred to, which includes a figure showing the chromene-based structures on which **Abbott** is working. These include several chromen-2-ones, one being identified by the laboratory code **A-798**. However, the most promising candidate to emerge from this collaboration with **Millennium** is **A-761**, a chromen-4-one. It appears that A-798 was originally the favored candidate, but was dropped because of adverse cardiac effects; possibly Argenta has spotted an opportunity to continue investigating MCH antagonists from that failed series. It is also possible that this is a revival or re-filing of old work, since Argenta filed an application with the identical title on November 11th 2004, only to abandon it a year later. Had that earlier case been used as a priority document for international filings, publication should have occurred in mid-May 2006, but that did not happen.



The first NCEs for the treatment of fibrosis and osteoporosis to emerge from Shionogi's connective tissue growth factor (CTGF) expression inhibitors program

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

This week a joint GB application from the **University of Edinburgh**, the **University of Strathclyde** and the **Common Services Agency** (A division of the Scottish NHS) claimed novel antibodies against prion protein and their uses. This is likely to relate to the prion disease research unit at the University of Edinburgh founded by Prof Bob Will. The unit was initially charged with monitoring the occurrence of sporadic and new variant Creutzfeldt Jakob disease (CJD). More recent work has focused on the diagnosis of the disease. There is one previous application from these three applicants relating to non-ionic surfactant vesicles for nucleic acid delivery.

The Council for the Central Laboratory of the Research Councils made a UK application for a lipoprotein assay. This appears to relate to previous claims to HDL and LDL assays made by this team in **WO2006061646** and **WO2005015241**.

A **Richard Brydges-Price** is named on an application claiming a projectile for administering a medicament. This inventor is currently named on **WO0071967**, which disclosed a projectile for delivery of a tranquilliser. This may also be the same inventor as the Richard Brydges-Price featured in the **New Scientist**, who has recently invented a wireless stun gun capable of delivering an incapacitating high-voltage shock.

Cresset Biomolecular Discovery and **Cresset Therapeutics** have filed on a method and system for automated iterative drug discovery. **Cresset** was founded in 2001 on the scientific developments of XEDs and Fields made by **Dr Andy Vinter** whilst at Cambridge University. **The Wellcome Trust** provided initial seed funding and the company has since formed collaborations with the **James Black Foundation**, **Pharmagene** and **BioFocus**. Based in LetchWorth Garden City, Cresset is currently named on **WO2004023349** and **WO2004023337**.

Immorgene, a new entrant to the world of patenting, has submitted an application simply entitled diagnostic. **Immorgene** was formed as a UK limited company early in 2005, having previously been known as **HydraGene International**. Based in Stockton-on-Tees, the company focuses on diagnostics for the health care sector using their proprietary low-density microarray technology platform. Current applications are focused on mental disorders (e.g. autism), ageing and cancer. **Immorgene** also is developing technology designed to enable human cells to be established in culture, so that they can be grown indefinitely e.g. in cultivating stem cells.

Oxford Biosensors Ltd is seeking protection for ruthenium-containing redox mediators. This may follow on from **WO03097860**, which claims a method for measuring analytes, using a microelectrode comprising an enzyme and a redox mediator.

Phynova Ltd has filed an application relating to an antiviral product. Previous applications claim extracts of *Scutellaria* for the treatment of SARS (**WO2005082388**) and compositions containing plant extracts for the treatment of hepatitis C virus infection (**WO2005079823**). Phynova's product pipeline includes **PYN17** (**Altirex**, symptoms of chronic hepatitis C, Phase IIb in 2006/2007), **PYN18** (hepatitis C, preclinical in 2005/2006) and **PYN5** (respiratory tract infections, preclinical in 2004 to 2006). The company, which specialises in developing drug candidates mainly derived from botanical medicines and is based at Oxford Science Park, is also active in the areas of anti-inflammatories and oncology.

Reckitt Benckiser Healthcare (UK) Ltd is seeking protection for improvements in and relating to pharmaceutical lozenges, which may relate to lozenge forms of **Lemsip**. **Reckitt** completed the acquisition of **Boots Healthcare Int** in Feb 2006, and its other pharmaceutical-based products include **Gaviscon**, **Senokot** and **Fybogel**.

Giuseppe Teti has filed an application relating to peptides that mimic non-human cross-reactive protective epitopes of the group B meningococcal capsular polysaccharide. Teti's other application, **WO9954457** (filed under **Chiron SpA**) claims a vaccine of anti-idiotypic antibodies which immunologically mimic group B streptococcal carbohydrates. The inventor now appears to be associated with the **Universita degli Studi di Messina**, and recent work has included vaccines against *Staphylococcus aureus*, Group B *Streptococcus* and *Cryptococcus neoformans*.

The **University of Leeds** has an application this week relating to a 4 transmembrane protein. This is likely to relate to research by **Peter Henderson** of the University, whose last application in conjunction with **Ajinomoto Co Inc** (**WO2005038021**), claimed a novel transporter protein.

Due for publication in mid-December 2007