

CURRENT PATENTS GAZETTE



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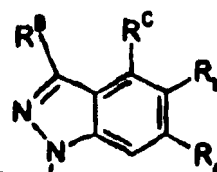
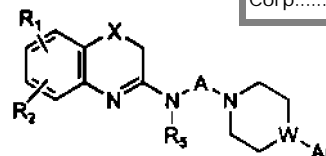
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DRUG PATENTING IN CONTEXT

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.

NEW THIS WEEK

Neurogen continues its development program of dopamine D4 ligands after the break up of its research collaboration with Schering Corp.....



.....while Pfizer reports new PDE IV inhibitors based on the replacement of catechol by an indazole bioisostere in established compounds.

HIGHLIGHTS THIS WEEK

Public Holidays once again play havoc publication schedules for new patent specifications this week, as the official release of PCT applications was put back to **Friday, 14th May**. This was due to the Ascension Day Holiday in Switzerland and consequently, Current Patents *Gazette* is being published a day later than normal.

PDE IV inhibitors are the focus of three applications from Pfizer this week, two claiming new compounds derived from the replacement of **catechol** by an **indazole bioisostere** in known inhibitors while the third, in Section C, covers a process for their preparation. Catechol based PDE IV inhibitors are a well-established part of Pfizer's program, previously covered in EP706795, WO9412461 and WO9640636 while the company is developing **atizoram**, currently in phase II trials for asthma and has a range of catechol oxindoles and benzimidazoles under preclinical investigation. This move into indazole based compounds is yet to yield a confirmed candidate for development, but recent patenting activity covering their synthesis would indicate that a lead compound has been identified.

Following on from last week's joint application with Schering Corp disclosing **naphthyl and azanaphthyl-4-(phenylmethyl)piperazines** acting as selective **dopamine D4 ligands**, Neurogen now appears to be targeting the structurally related 1,4-benzoxazine and -benzothiazine derivatives. The collaboration between the two companies came to a close in July 1998, with the lead compound **NGD-94-1** discontinued while **NGD-94-4** was suspended after clinical trials due to concern over pharmacokinetic profile. It appears that Neurogen are continuing this line of investigation independently of Schering.

Zeaxanthin features twice among the week's Chemical Process cases, in applications from the Mexican company **Bioquimex Reka**, and from **Roche**. This **carotenoid** has been shown to be useful in a variety of conditions, including **dermatoses, ocular disease (macula) and carcinoma** by companies such as **Marigen, the Howard Foundation, Applied Food Biotechnology, Kirin Brewery and BASF**.

SmithKline Beecham feature in two collaborative efforts among this week's Section B cases. The first involves a set of three joint applications with **Ligand Pharmaceutical** for **zinc chelated G-CSF receptor ligands**, used as **agonists of dimeric cell-surface receptors**. The two companies have been working together in this area for some time now, with **SB-247464**, a non-peptide small-molecule that mimics the biological activity of G-CSF described in WO9744033, now under preclinical investigation. The other is less obvious revolving around an application from **Vanguard Medica** for a carboxamido tetrahydro-carbazole anti-hyperalgesic. However, the inventor is based at SmithKline Beecham in Harlow, and it has been filed by an agent who, although now in private practice, has strong past links to SB. It is related to **frovatriptan**, a selective **5-HT_{1D} partial agonist** licensed by Vanguard from SB, as a potential treatment for migraine, which is currently in preregistration.