Innovation in CNS Experimental Medicine

P1vital®

and

Hammersmith Medicines Research

Collaboration
**P1vital and Hammersmith Medicines Research (HMR) collaboration**

P1vital and Hammersmith Medicines Research (HMR) collaborate on early phase clinical studies. The unique CNS experimental medicine expertise and capabilities of P1vital together with the outstanding Phase 1 experience and facilities of HMR provide a comprehensive solution for early assessment of the safety and potential efficacy of novel CNS compounds.

P1vital is an innovative Clinical Research Organisation specialising in experimental medicine for Central Nervous System (CNS) disorders and obesity that:

- **Provides** CNS experimental medicine biomarkers in anxiety, depression, schizophrenia, cognitive disorders and obesity
- **Collaborates** with internationally renowned opinion leaders in psychiatry, neuroscience and obesity, linked through University hospitals and UK clinical research facilities
- **Enables** clients to make more rapid and effective decisions in the Phase 1 and Phase 2 clinical development of drugs for CNS disorders and obesity
- **Creates** synergy through combining our CNS drug discovery and development expertise with the strong clinical science base in the UK

**Unique CNS Translational Solutions for Pharma & Biotech**

P1vital provides a unique range of products and services in CNS experimental medicine. Our highly experienced team has extensive expertise in all aspects of CNS drug discovery and development. This enables P1vital to offer their clients customised experimental medicine solutions including:

- Consultancy and study delivery services to enable you to assess the clinical efficacy of your early phase CNS development compounds
- P1vital® Oxford Emotional Test Battery (ETB), a product that can be used to assess antidepressant efficacy in your clinical trials

Our objective is to enable you to more effectively manage your risk and investment in CNS drug development.

**Expanding Portfolio of Biomarkers**

P1vital provides CNS experimental medicine models for anxiety, depression, schizophrenia, cognitive disorders and obesity including:

- Depression: P1vital® Oxford ETB
- Depression: Pharmacological fMRI
- Anxiety: CO₂ inhalation
- Schizophrenia: Pharmacological fMRI
- Schizophrenia: Bi-conditional learning
- Schizophrenia: Eye tracking
- Cognitive disorders: Arena & Platform tasks
- Obesity: Universal eating monitor

**P1vital Pre-Competitive Consortium in Psychiatry**

P1vital is expanding its portfolio of validated CNS experimental medicine models through a pre-competitive consortium agreement with AstraZeneca, GlaxoSmithKline, Lundbeck, Organon (a subsidiary of Merck) and Pfizer.
Pivotal and Hammersmith Medicines Research (HMR) collaboration

Hammersmith Medicines Research

Since 1993, HMR has done 550 Phase 1 studies, 154 (28%) of which involved compounds with central nervous system (CNS) activity. Many of the studies were first-in-man.

HMR has experience of a wide range of procedures to assess novel CNS compounds, such as:

- psychomotor tests
- coordination tests
- ataximeter
- body sway
- erythrocyte cholinesterase activity
- cognitive function assessment, using a computerised system, such as CDR and Cogstate
- scopolamine model of dementia
- saliva flow rate
- pain models
- saccadic eye movements
- critical flicker fusion frequency threshold
- digit span
- EEG, with interpretation by consultant neurologist
- PET, with GE Imagent, Hammersmith Hospital
- SPECT, with UC Hospital
- MRI, with GE Imagent, Hammersmith Hospital
- clinical questionnaires, e.g. POMS, CSSRS, AIMS, Simpson-Angus, Barnes ARS, TFEQIII, BDI and HRS
- simple and choice reaction times
- visual analogue rating scales
- tyramine challenge tests, to assess MAO-B inhibition
- 5-HT$_{1A}$-receptor mediated function tests.

Types of molecule that HMR has studied include:

- dopamine receptor antagonists
- cannabinoid-1 receptor inverse agonists
- MAO-B inhibitors
- anti-convulsants
- anti-psychotics
- anti-depressants
- cholinesterase inhibitors
- histamine H$_2$-receptor antagonists
- histamine H$_1$-receptor antagonists
- 5-HT$_{1A}$ receptor agonists
- benzodiazepine analogues
- GABA inverse agonists.
Recent P1vital and HMR Publications


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