



For the Attention of Accredited Medical Writers

New data for Vimpat® (lacosamide) showed sustained efficacy for up to 5 years and improved seizure control when added to a broad range of antiepileptic drugs

Brussels, BELGIUM, June 29th, 2010 at 1330 CET—New long term data showed that Vimpat® (lacosamide) provided sustained reduction in seizure frequency for up to five years when used as an add-on treatment for uncontrolled partial onset seizures in adults with epilepsy.¹ In addition post-hoc exploratory analyses showed that adjunctive lacosamide treatment reduced partial-onset seizure frequency and improved responder rates when added to a broad range of antiepileptic drugs (AEDs) including both traditional sodium channel-blocking agents† and those that act on non-sodium channel-targets.^{2,3} These and other data were presented this week at the 9th European Congress on Epileptology (ECE), in Rhodes, Greece.

“The new data showed that lacosamide provided long-term additional partial-onset seizure control when added to a broad range of AEDs and when current therapy was not enough.” said Dr Jacqueline French, Professor in the department of Neurology, NYU Comprehensive Epilepsy Centre, U.S.

In addition, laboratory results of the first direct *in-vitro* comparison of lacosamide with other AEDs were also presented at the Congress and provided additional evidence of lacosamide’s novel mode of action.⁴

In the European Union, Vimpat® (film-coated tablets, syrup, and solution for infusion) is approved as adjunctive therapy for the treatment of partial-onset seizures with or without secondary generalization in patients with epilepsy, aged 16 years and older.⁵ Vimpat® is approved in the U.S. as an add-on therapy for the treatment of partial-onset seizures in people with epilepsy who are 17 years and older, and is available as oral tablets, oral solution and as an intravenous (IV) injection.⁶ The maximum recommended daily dose for Vimpat® in the European Union and the US is 400 mg/day.^{5,6} Vimpat® solution for infusion may be used when oral administration is temporarily not feasible. Vimpat® has a novel mechanism of action that is different from all currently available AEDs, although the



precise mechanism by which Vimpat[®] exerts its antiepileptic effect in humans is yet to be fully elucidated.^{5,6,7,8}

About the Data

Vimpat[®] – sustained efficacy for up to 5 years¹

Long term sustained efficacy has been reported in patients with partial-onset seizures who completed 1 to 5 years of adjunctive treatment with lacosamide.

Pooled data from 1,327 patients who took part in double-blind trials and/or corresponding open-label lacosamide trials were analyzed, and results for the first three months of treatment were compared with those of the last three months of treatment in cohorts completing 1, 3 and 5 years of therapy.

Median percent reductions in seizure frequency for the first 3 months of treatment were 45.5%, 50.0% and 48.2% for the 1 (n=853), 3 (n=384) and 5 (n=67) year cohorts, respectively. These results compared with 52.4%, 72.7% and 71.8% during the last three months of treatment, demonstrating sustained effects over time.

The proportion of patients achieving a $\geq 50\%$ improvement in seizure frequency was also sustained in each cohort, ranging from 45.0%-50.3% for the first 3 months of treatment, compared to 51.8%-70.6% for the last 3 months.

Long-term efficacy of lacosamide for partial-onset seizures: An interim evaluation of completer cohorts exposed to lacosamide for up to 5 years

French J, Ben-Menachem E, Isojarvi J, Hebert D, Doty P.

Platform session: Drug Therapy 29th June, 11.30 – 13.00

Vimpat[®] – additional efficacy when added to a broad range of AEDs^{2,3}

Lacosamide reduced seizure frequency and improved responder rates in epilepsy patients with uncontrolled partial seizures regardless of the type of AED they were already taking.

Of 1,308 patients who took part in phase II/III placebo-controlled lacosamide trials, 82% were using at least one traditional sodium channel-blocking AED (eg, lamotrigine, oxcarbazepine, carbamazepine or phenytoin). Patients could also be taking other concomitant AEDs. In this group:



- Median percent reduction in seizure frequency per 28 days for lacosamide 200mg, 400mg and 600mg/day†† was reduced by 33.3%, 39.0%, 42.7% respectively, compared to 18.9% with placebo ($p < 0.01$)
- 50% responder rates with lacosamide 200mg, 400mg and 600mg/day†† compared to placebo were 33.3% ($p = 0.06$), 39.9% ($p < 0.01$) and 42.4% ($p < 0.01$) versus 22.7%
- The most common treatment-emergent adverse events (TEAEs) ($\geq 10\%$) were dizziness, headache, nausea, diplopia and vomiting.

Evaluation of lacosamide efficacy and safety as adjunctive therapy in patients receiving traditional sodium channel blocking AEDs

Isojarvi J, Hebert D, Doty P, Zackheim J, Davies K, Sake J-K, Eggert-Formella A

Poster session: Drug therapy I, P230: 28th June, 13.30-14.30

In the 18% of patients taking only AEDs that act on non-sodium channel blocking AEDs (eg, valproate, levetiracetam, topiramate, zonisamide, gabapentin, pregabalin, phenobarbital, tiagabine and/or lorazepam):

- Median percent reduction in seizure frequency per 28 days for lacosamide 200mg, 400mg and 600mg/day†† was reduced by 38.0% ($p = 0.11$), 62.5% ($p < 0.01$) and 79.0% ($p < 0.01$) compared with placebo (28.0%)
- 50% responder rates with lacosamide 200mg, 400mg and 600mg/day†† compared to placebo were 41.9% ($p = 0.2$), 62.3% ($p < 0.01$) and 79.2% ($p < 0.01$) versus 25.0%
- Lacosamide was generally well-tolerated, with 8.6% of patients withdrawing from treatment due to TEAEs. The most common TEAEs ($\geq 10\%$, all lacosamide doses combined) were dizziness (15.3%), headache (12.3%) and fatigue (10.4%).

Lacosamide efficacy and safety in patients taking AEDs that act on non-sodium channel targets

Sake J-K, Hebert D, Doty P, Zackheim J, Eggert-Formella A, Davies K, Isojarvi J

Poster session: Drug therapy XI, P414: 29th June, 13.30-14.30

Vimpat® – novel mode of action⁴

The precise mechanism by which lacosamide exerts its antiepileptic effect in humans remains to be fully elucidated.^{5,6} Results of the first direct comparison of lacosamide and



other AEDs on voltage gated sodium channel inactivation provided additional evidence of its novel mode of action.

In laboratory studies the selective effects of lacosamide on voltage gated sodium channel slow inactivation parameters were compared to other AEDs that target the sodium channel (carbamazepine, phenytoin, lamotrigine, zonisamide and rufinamide). The study was performed in the N1E-115 mouse neuroblastoma cell line expressing native voltage gated sodium channels.

The electrophysiological results showed that lacosamide produced a significant and large change in neurophysiological parameters indicative of a selective enhancement of the slow inactivation of voltage gated sodium channels, while no such effect was seen with carbamazepine or zonisamide. Phenytoin, lamotrigine and rufinamide modified slow inactivation parameters in different ways from lacosamide.

Modulation of sodium channels is important for control of abnormal neuronal activity in the brains of people with epilepsy, and inactivation can occur via fast or slow mechanisms. While other sodium channel blocking AEDs act primarily via fast inactivation, the novel effect of VIMPAT® through the selective enhancement of slow inactivation is thought to control neuronal hyperexcitability without affecting normal nerve function.^{7,9}

Comparative study of lacosamide with other sodium channel blocking antiepileptic drugs on sodium current slow inactivation

Niespodziany I, Leclère N, Vandenplas C, Foerch P, Wolff C

Poster session: Drug therapy VI, P506: 30th June, 13.30-14.30

Other UCB-supported lacosamide studies presented at the 9th European Congress on Epileptology included:

- *A multicenter, open-label trial to assess the safety and tolerability of a single intravenous loading dose of lacosamide followed by oral maintenance as adjunctive therapy in patients with partial-onset seizures*

Fountain NB, Krauss G, Isojarvi J, Dilley D, Doty P, Rudd GD

Poster session: Drug therapy XI, P416: 29th June, 13.30-14.30

- *Pharmacokinetic evaluation of oral lacosamide in Phase II/III clinical trials: a pooled analysis*

Cawello W, Andreas J-O, Hebert D, Eggert-Formella A

Poster session: Drug therapy I, P227: 28th June, 13.30-14.30.



- *Beta 1 Na⁺ channel subunit loss impairs the effects of CBZ but not lacosamide on repetitive firing via differential effects on persistent Na⁺ currents*

Uebachs M, Opitz T, Stoehr T, Niespodziany I, Wolff C, Beck H

Poster session: Drug therapy VI, P499: 30th June, 13.30-14.30

† For the post hoc exploratory analysis traditional sodium channel blocking agents were lamotrigine, oxcarbazepine, carbamazepine or phenytoin.²

†† The maximum recommended dose for VIMPAT[®] in the European Union and in the U.S. is 400mg/day. The 600mg/day dose is not a recommended dose in the European Union or in the U.S.^{5,6}

For further information

Eimear O'Brien, Associate Director, Global CNS Communications, UCB Group
T: +32 2 559 9271, eimear.O'Brien@ucb-group.com

Andrea Levin, Public Relations Manager, CNS, UCB, Inc.
T: 770.970.8352, andrea.levin@ucb.com

Important safety information about Vimpat[®] in the European Union⁵

Vimpat[®] is indicated as adjunctive therapy in the treatment of partial-onset seizures with or without secondary generalization in patients with epilepsy aged 16 years and older. Vimpat[®] solution for infusion is an alternative for patients when oral administration is temporarily not feasible. Contraindications: Hypersensitivity to the active substance or to peanuts or soya or to any of the excipients (tablet formulation only); known second- or third-degree atrioventricular (AV) block. Special warnings and precautions for use: Treatment with lacosamide has been associated with dizziness which could increase the occurrence of accidental injury or falls. Therefore, patients should be advised to exercise caution until they are familiar with the potential effects of the medicine. Prolongations in PR interval with lacosamide have been observed in clinical studies. Lacosamide should be used with caution in patients with known conduction problems or severe cardiac disease such as a history of myocardial infarction or heart failure. Caution should especially be exerted when treating elderly patients as they may be at an increased risk of cardiac disorders or when lacosamide is used in combination with products known to be associated with PR prolongation. Suicidal ideation and behaviour have been reported in patients treated with anti-epileptic agents. Therefore patients should be monitored for signs of suicidal ideation and behaviours and appropriate treatment should be considered. Patients (and caregivers of patients) should be advised to seek medical advice should signs of suicidal ideation or behaviour emerge. Undesirable effects: The most common adverse reactions (greater than 10 percent) are dizziness, headache, diplopia, and nausea. Other common adverse reactions (1–10 percent) are depression, confusional state, balance disorder, coordination abnormal, memory impairment, cognitive disorder, somnolence, tremor, nystagmus, hypoesthesia, dysarthria, disturbance in attention, vision blurred, vertigo, tinnitus, vomiting, constipation, flatulence, dyspepsia, dry mouth, pruritus, rash and muscle spasms, gait disturbance, asthenia, fatigue, irritability, injection site pain or discomfort (specific to solution for infusion), irritation (specific to solution for infusion), fall, and skin laceration. Refer to the European Summary of Product Characteristics for other adverse reactions and full prescribing information.

<http://www.emea.europa.eu/humandocs/PDFs/EPAR/vimpat/emea-combined-h863en.pdf>

(Updated June 2010)



Important safety information about Vimpat® in the U.S.⁶

AEDs increase the risk of suicidal behavior and ideation. Patients taking Vimpat® should be monitored for the emergence or worsening of depression, suicidal thoughts or behavior, and/or any unusual changes in mood or behavior.

Vimpat® oral solution contains aspartame, a source of phenylalanine. A 200 mg dose of Vimpat® oral solution (equivalent to 20mL) contains 0.32 mg of phenylalanine. Patients should be advised that Vimpat® may cause dizziness, ataxia, and syncope.

Caution is advised for patients with known cardiac conduction problems, who are taking drugs known to induce PR interval prolongation, or with severe cardiac disease. In patients with seizure disorders, Vimpat® should be gradually withdrawn to minimize the potential of increased seizure frequency. Multiorgan hypersensitivity reactions have been reported with antiepileptic drugs. If this reaction is suspected, treatment with Vimpat® should be discontinued.

The most common adverse reactions occurring in ≥ 10 percent of Vimpat®-treated patients, and greater than placebo, were dizziness, headache, nausea, and diplopia.

Dosage adjustments are recommended for patients with mild or moderate hepatic impairment or severe renal impairment. Use in severe hepatic impairment patients is not recommended.

Vimpat® is a Schedule V controlled substance.

Please see full prescribing information at <http://www.vimpat.com/pdfs/PI.pdf>.

(Accessed 28th May 2010)

Vimpat® is a registered trademark under license from Harris FRC Corporation.

About UCB

UCB, Brussels, Belgium (www.ucb.com) is a biopharmaceutical company dedicated to the research, development and commercialization of innovative medicines with a focus on the fields of central nervous system and immunology disorders. Employing more than 9 000 people in over 40 countries, UCB produced revenue of EUR 3.1 billion in 2009. UCB is listed on Euronext Brussels (symbol: UCB).

Forward looking statement

This press release contains forward-looking statements based on current plans, estimates and beliefs of management. Such statements are subject to risks and uncertainties that may cause actual results to be materially different from those that may be implied by such forward-looking statements contained in this press release. Important factors that could result in such differences include: changes in general economic, business and competitive conditions, effects of future judicial decisions, changes in regulation, exchange rate fluctuations and hiring and retention of its employees.

References

1. French J, Ben-Menachem E, Isojarvi J et al. Long-term efficacy of lacosamide for partial-onset seizures: An interim evaluation of completer cohorts exposed to lacosamide for up to 5 years. Presented at the 9th European Congress on Epileptology, Rhodes, Greece. 27 June-1 July 2010
2. Isojarvi J, Hebert D, Doty P et al. Evaluation of lacosamide efficacy and safety as adjunctive therapy in patients receiving traditional sodium channel blocking AEDs. Presented at the 9th European Congress on Epileptology, Rhodes, Greece. 27 June-1 July 2010
3. Sake J-K, Hebert D, Doty P et al. Lacosamide efficacy and safety in patients taking AEDs that act on non-sodium channel targets. Presented at the 9th European Congress on Epileptology, Rhodes, Greece. 27 June-1 July 2010
4. Niespodziany I, Leclère N, Vandenplas C, Foerch P and Wolff C. Comparative study of lacosamide with other sodium channel blocking antiepileptic drugs on sodium current slow inactivation. Presented at the 9th European Congress on Epileptology, Rhodes, Greece. 27 June-1 July 2010
5. Vimpat® European Summary of Product Characteristics
<http://www.emea.europa.eu/humandocs/PDFs/EPAR/vimpat/emea-combined-h863en.pdf>
(Updated June 2010)
6. Vimpat® US Prescribing Information



<http://www.vimpat.com/pdfs/PI.pdf>

(Accessed 28th May 2010)

7. Beyreuther BK, Freitag J, Heers C, Krebsfänger N, Scharfenecker U, Stöhr T. Lacosamide: A review of preclinical properties. *CNS Drug Reviews*. 2007;13(1):21-42
8. Errington AC, Stohr T, Heers C, Lees G. The investigational anticonvulsant lacosamide selectively enhances slow inactivation of voltage-gated sodium channels. *Mol Pharmacol*. 2008 Jan;73(1):157-69
9. Ben-Menachem E. Lacosamide: an investigational drug for adjunctive treatment of partial-onset seizures. *Drugs Today* 2008; 44: 35-40