Levetiracetam (S-Etiracetam)

(Desitrend*, Keppra*, Levetiracetum*) POM

- **Client Information Leaflet:** Levetiracetam
- **Formulations**

Oral: 250 mg, 500 mg, 750 mg and 1 g tablets; 100 mg/ml oral solution; 250 mg, 500 mg, 1 g granule sachets. Injectable: 500 mg/5 ml vials.

- **Action**

The mechanism of anticonvulsant action is unknown but it has been shown to bind to the pre-synaptic vesicle protein SV2A within the brain, modulating the release of neurotransmitters, which may protect against seizures.

- **Use**
    - Adjunctive maintenance therapy in dogs and cats presenting with epileptic seizures refractory to conventional therapy. Good tolerability reported in patients with structural epilepsy.
    - May be more effective than phenobarbital at treating myoclonic seizures in cats.
    - As a primary therapy where phenobarbital is contraindicated; however, efficacy is significantly worse than phenobarbital in newly diagnosed epileptic dogs.
    - Used at a higher dose, in addition to conventional maintenance therapy, as pulse therapy for cluster seizures. CRI can be used for emergency control of status epilepticus.

Levetiracetam is rapidly absorbed from the GI tract with peak plasma concentrations reached in <2 hours of oral dosing. Steady state is rapidly achieved within 2 days. Plasma protein binding is minimal. The plasma half-life is around 3–4 hours in dogs. It will also reach target serum concentrations if administered rectally. Withdrawal of levetiracetam therapy or transition to or from another type of antiepileptic therapy should be done gradually. Use with caution and in reduced doses in patients with renal impairment; in humans, renal elimination of levetiracetam correlates with creatinine clearance.

More +

- **DOSES**
    - **Dogs, Cats**
        - Maintenance therapy (as adjunct or sole anticonvulsant): 20–30 mg/kg p.o. q8–12h.
        - Pulse therapy for severe cluster seizures (in addition to maintenance therapy): 30 mg/kg p.o. q6–8h for the duration of the cluster (usually 2–3 days) and then incrementally reduced and stopped until the start of the next cluster. Incremental increases in dose if required.

- Status epilepticus: a maximum of 60 mg/kg i.v. bolus q8h (response may be seen at lower doses and suggested starting dose is 30 mg/kg) or CRI of 8 mg/kg/h, incrementally increased to effect if required.
- The parenteral preparation can be given at 40 mg/kg per rectum, if oral or i.v. administration is not possible.