TVMDL Texas A&M Veterinary Medical Diagnostic Laboratory

Protecting Animal and Human Health through Diagnostics

Therapeutic Drug Monitoring

Therapeutic drug monitoring (TDM) is an effective way to ensure your patient is receiving THE appropriate dose. TVMDL offers three TDM tests that specifically target antiseizure medications: phenobarbital, potassium bromide, and zonisamide. These tests offer quick and accurate results to ensure the dosage regimen is effective in controlling seizures. Additionally, these tests can also be used to prevent overdosing. For example, while phenobarbital can be an effective way to control idiopathic epilepsy, liver toxicity can result from overdosing.

Phenobarbital

Phenobarbital is a barbiturate that is used primarily as an antiseizure medication. It is a favorable anti-epileptic medication because of its pharmacokinetic profile, relative safety, efficacy, and affordability. Phenobarbital TDM is performed by our Clinical Pathology section.

Schedule: Monday – Friday
Turnaround time: 1 day
Cost: $30
Specimen: 1 – 2 mL serum
Therapeutic Range: 15 – 40 ppm (µg/mL)

Potassium Bromide

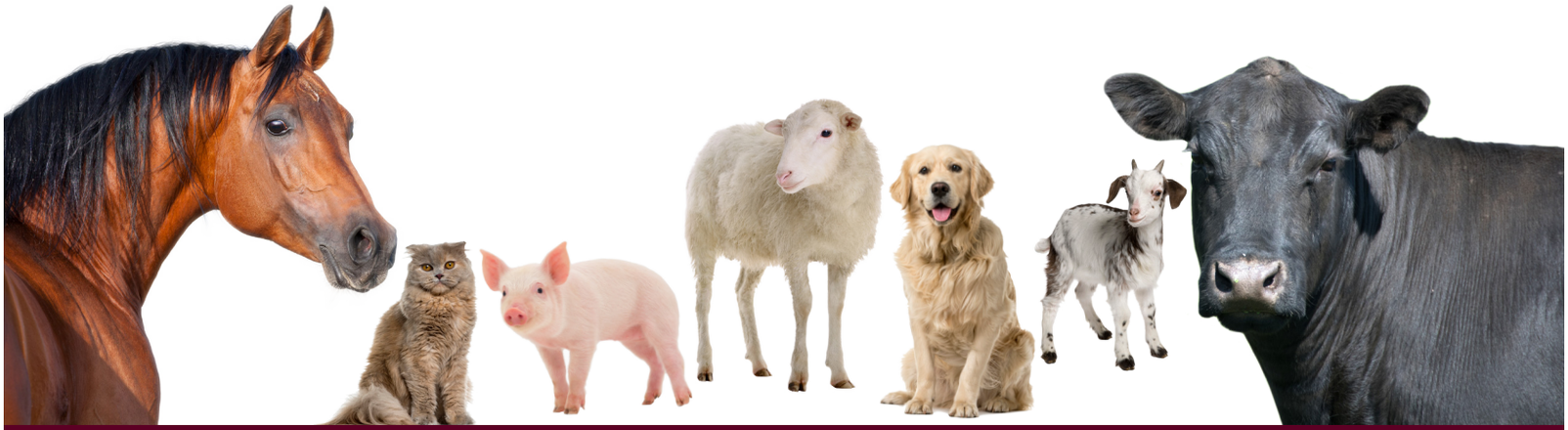
Potassium bromide is an anticonvulsant that can be used alone or adjunctively with phenobarbital to control seizures. Additionally, potassium bromide has a very long half-life (~16-25 days in dogs) making it a favorable medication to treat epilepsy. Potassium bromide TDM is performed by our Analytical Chemistry section.

Schedule: Monday, Wednesday, Friday
Turnaround time: 1 – 3 days
Cost: $38
Specimen: 1 mL serum
Therapeutic Range: 1 – 3 mg/mL

Zonisamide

Zonisamide is an anticonvulsant that may be useful as an "add-on" drug for refractory epilepsy. Its half-life is such that twice daily dosing is possible. Zonisamide TDM is performed by our Analytical Chemistry section.

Schedule: Monday – Friday
Turnaround time: 1 – 3 days
Cost: $60 ($85 for pre/post levels)
Specimen: 2 mL serum
Therapeutic Range: 15 – 40 ppm (µg/mL)



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