

## Determination of Coagulation Parameters by Whole Blood Dynamic Viscoelastic Coagulometry in Strigiformes

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**Abstract:** No reference values are available in Strigiformes to evaluate blood coagulation using dynamic viscoelastic coagulometry (DVC) with the Sonoclot (Sienco, Boulder, CO, USA) analyzer. The objectives of this study were 1) to assess the feasibility of DVC in Strigiformes, 2) to calculate the index of individuality of each coagulation parameter, and 3) to assess interspecies variability and establish reference intervals, if relevant, based on the index of individuality. Fresh whole blood samples were obtained from healthy Strigiformes, including 13 barred owls (*Strix varia*), 10 great horned owls (*Bubo virginianus*), 6 snowy owls (*Bubo scandiacus*), and 7 eastern screech owls (*Megascops asio*), and analyzed with DVC with glass bead (gb) and kaolin clay (k) coagulation activators. Activated clotting time (ACT), clot rate (CR), and platelet function were determined immediately after collection using fresh native whole blood. Intraindividual variability was assessed with a second fresh native whole blood sample from 5 barred owls. Interindividual variability was assessed using a Kruskal-Wallis test. For the parameters gbACT (n = 35), gbCR (n = 34), and kACT (n = 27), no significant differences were detected between species (all  $P \geq 0.05$ ). Based on low index of individuality, global Strigiformes reference intervals were determined for gbACT (32.3–852.5 seconds; n = 35), gbCR (0–20.1 units/min; n = 29), and kACT (0–1570.3 seconds; n = 27). In conclusion, DVC can be used in Strigiformes and the gb coagulation activator would be more appropriate when basal individual values are not available in a tested individual.