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An Immunosignature Based Test for the Diagnosis and Characterization of Canine Lymphoma

AzTE Case # M14-028L

Inventors

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Invention Description

Lymphoma is one of the most common spontaneously occurring neoplasms seen in canines. If diagnosed early, effective treatments can be administered and survival rates improved. Unfortunately, there are no non-invasive tests for lymphoma in dogs or in humans. Diagnosis is typically made by looking for clinical signs, performing a physical examination and imaging, with final confirmation by biopsy. These established methods are expensive and imprecise. A serological test for lymphoma could be very useful in early detection, diagnosis and monitoring of residual disease.

Researchers at the Biodesign Institute of Arizona State University have developed a veterinary non-invasive serological test for diagnosing and characterizing canine lymphoma. This test is capable of distinguishing the subtype of lymphoma (B cell vs T cell lineage) and predicting which dogs with B cell lymphoma will relapse in less than 120 days. The test is performed as an immunoassay on a small peptide microarray utilizing an established immunosignature of diseased (lymphoma) vs control (healthy) canines.

This technology provides a noninvasive serological test to not only diagnose canine lymphoma, but also to predict which dogs will relapse. This test provides multiple layers of information regarding health, lymphoma subtype, confirmation of remission and duration of remission following treatment. This test may also have future applications in human lymphoma diagnostics.

Potential Applications

- Diagnostic test for lymphoma in canines
  - Can distinguish the subtype of lymphoma (B cell vs T cell)
  - Can predict which dogs will relapse in less than 120 days
- May have future applicability in human lymphoma diagnostics

Benefits and Advantages

- Able to distinguish between lymphoma and healthy patients with 94% accuracy
- Median sensitivity of 88.9% and specificity of 87%
- Non-Invasive
- Less expensive compared to routine imaging and biopsy
- Simple to use
- Provides multiple layers of information
  - Can distinguish between B cell and T cell lymphoma
  - Can predict which dogs will relapse
  - Provides confirmation and duration of remission

Intellectual Property Status:

Patent Pending

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