



Free T4

Free T4 is a measure of metabolically active, unbound thyroid hormone and makes up approximately 1% of the circulating thyroid hormone concentration. Free T4 is that portion of the thyroid hormone that enters into cells to perform metabolic functions and exerts a negative feedback on pituitary production of TSH. Currently the only validated method for the determination of Free T4 in dogs and cats is a modified equilibrium dialysis method. This entails a preliminary dialysis stage followed by Free T4 determination by radioimmunoassay (RIA). Although Free T4 by equilibrium dialysis is less affected by non-thyroidal illness and autoantibodies than Total T4, it does have limitations, including: it is expensive; it is labour intensive; it requires use of radioactive reagents; and periodically, reagents become unavailable in Australia resulting in lengthy delays in testing. Free T4 by equilibrium dialysis is not commonly used as an initial screening test for thyroid disease, but rather is best used in those patients whose Total T4 results appear not be in keeping with their clinical symptoms and where there is a suspicion that the Total T4 concentration is being affected by autoantibodies or concurrent non-thyroidal illness. However, in general, RIA methods are becoming less popular due to potential workplace hazards and access to these assays is likely to become more limited.

See also "Diagnosis and Monitoring of Hypothyroidism - General Guidelines".



Species:
Canine and feline



Specimen:
Serum (minimum 1 ml)



Container:
Plain (red top) tube



Collection Protocol:
Standard
venepuncture



Handling/Shipping
Instructions:
Send samples to the
laboratory within
12-24 hours of
collection.