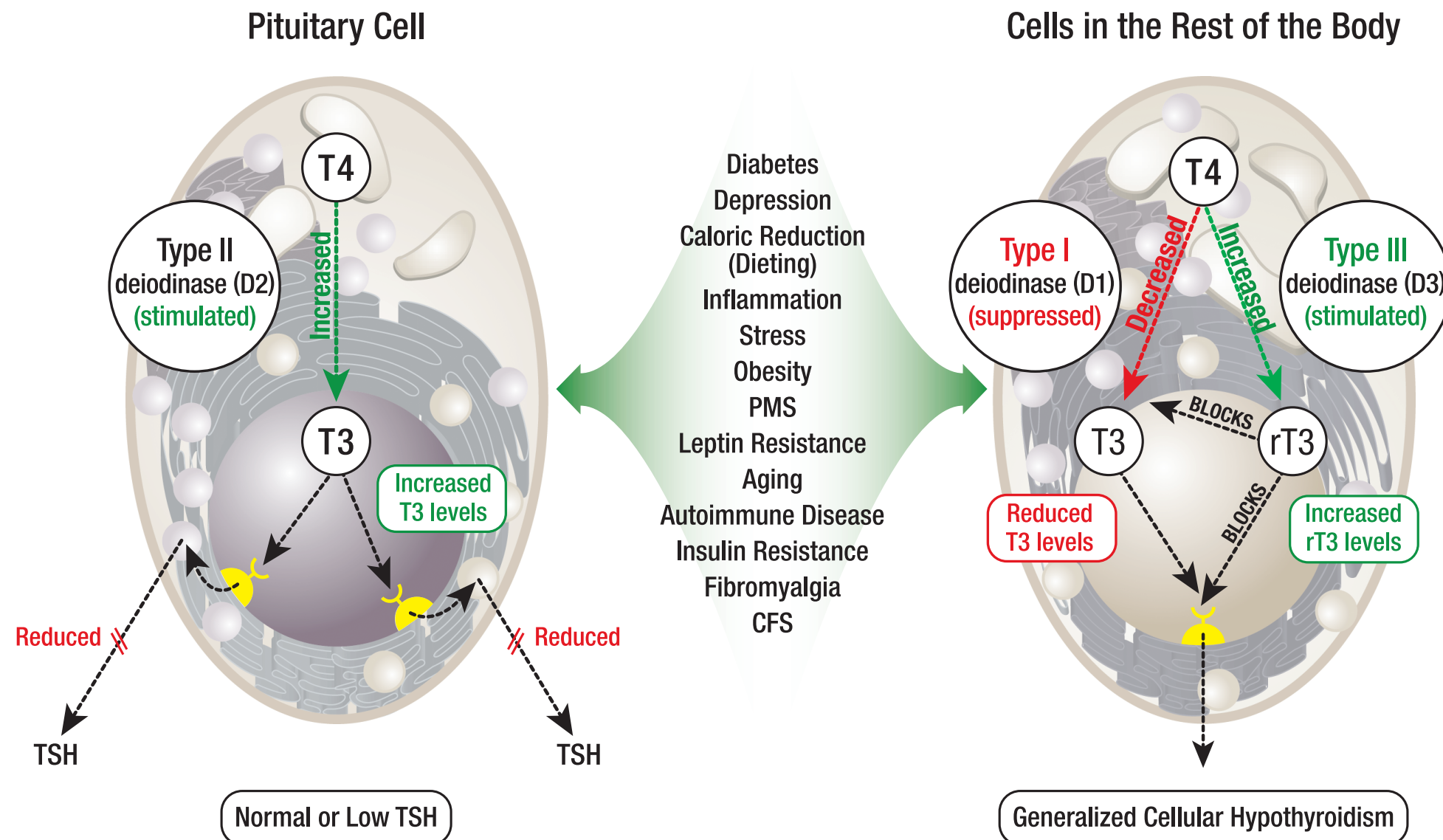


Conditions that cause low cellular T3 (hypothyroidism) not detected by TSH levels



Condition: TSH decreased (TSH fails to demonstrate hypothyroidism with normal TSH)

Cause: The conditions listed above activate type II deiodinase in the pituitary (D2), causing an increased T4 to T3 conversion in the pituitary. This causes an increase in pituitary T3 levels and a subsequent decrease in TSH levels (there is no type III deiodinase in the pituitary so no reverse T3 is produced).

Condition: Cellular Hypothyroidism & worsening of symptoms/condition

Cause: The conditions listed above suppress type I deiodinase (D1), which cause a decrease in T4 to T3 conversion in the rest of the body. This results in low intracellular T3 levels with subsequent hypothyroid symptoms. Additionally, the conditions listed above also stimulate type III deiodinase (DIII), which results in an increased conversion of T4 to reverse T3. This increase in reverse T3 further suppresses T4 to T3 conversion and blocks the T3 receptor, worsening hypothyroid symptoms.