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A study of extrathyroidal conversion of thyroxine (T4) to 3,3,5-triiodothyronine (T3) in vitro.

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Most endocrinologists believe that reverse T3 (3,3',5-triodothyronine) is just and inactive metabolite with no physiologic effect. This is an erroneous belief, however. This and other studies demonstrate that reverse T3 (rT3) is a more potent inhibitor of T4 to T3 conversion than PTU (propylthiouracil), which is a medication used to decrease thyroid function in hyperthyroidism. In fact, rT3 is 100 times more potent than PTU at reducing T4 to T3 conversion. Clearly demonstrating that rT3 not just an inactive metabolite, but rather an potent inhibitor of tissue thyroid levels. The authors conclude, "Reverse t3 appeared to inhibit the conversion of t4 to T3 with a potency which is about 100 times more than PTU..."