# Triiodothyronine (3H286): sc-73223



The Power to Question

## **BACKGROUND**

Triiodothyronine (T3) is a tyrosine-based hormone made by the thyroid gland with three iodine molecules attached to its molecular structure. It is the most powerful thyroid hormone affecting almost every process in the body, including body temperature, growth and heart rate. Triiodothyronine also regulates protein, fat and carbohydrate metabolism and is an important component in the synthesis of iodine. Triiodothyronine easily crosses the cell membrane and functions through a set of receptors in the nucleus to increase the basal metabolic rate, affect protein synthesis and increase the body's sensitivity to catecholamines. This hormone may also inhibit neuronal activity, thereby playing an important role in the hibernation cycles of some mammals. Triiodothyronine is essential to proper development and differentiation of all cells of the human body. Hyperthyroidism can be caused by an excess of circulating free Triiodothyronine.

## **REFERENCES**

- Broulik, P.D., et al. 2003. Effects of Triiodothyronine and estrogen administration on bone mass, mineral content and bone strength in male rats. Horm. Metab. Res. 35: 527-531.
- Fedorovich, E.I. and Demidchik, IuE. 2003. Triiodothyronine and thyroxin binding to red blood cells in children and adolescents with thyroid cancer. Vopr. Onkol. 48: 661-663.
- Kariv, R., et al. 2003. Triiodothyronine and interleukin-6 (IL-6) induce expression of HGF in an immortalized rat hepatic stellate cell line. Liver Int. 23: 187-193.
- 4. Laoag-Fernandez, J.B., et al. 2004. 3,5,3'-Triiodothyronine downregulates FAS and FAS ligand expression and suppresses caspase-3 and poly (adenosine 5'-diphosphate-ribose) polymerase cleavage and apoptosis in early placental extravillous trophoblasts in vitro. J. Clin. Endocrinol. Metab. 89: 4069-4077.
- Shimada, N. and Yamauchi, K. 2004. Characteristics of 3,5,3'-Triiodothyronine (T3)-uptake system of tadpole red blood cells: effect of endocrinedisrupting chemicals on cellular T3 response. J. Endocrinol. 183: 627-637.
- Olson, R.D., et al. 2005. Doxorubicin cardiac dysfunction: effects on calcium regulatory proteins, sarcoplasmic reticulum and Triiodothyronine. Cardiovasc. Toxicol. 5: 269-683.
- 7. Slyper, A.H., et al. 2005. Effective methimazole dose for childhood Graves' disease and use of free Triiodothyronine combined with concurrent thyroid-stimulating hormone level to identify mild hyperthyroidism and delayed pituitary recovery. J. Pediatr. Endocrinol. Metab. 18: 597-602.
- 8. Kimura, K., et al. 2006. Triiodothyronine acutely increases blood flow in the ventricles and kidneys of anesthesized rabbits. Thyroid 16: 357-360.
- 9. Saravanan, P., et al. 2006. Psychological well-being correlates with free Thyroxine but not free 3,5,3'-Triiodothyronine levels in patients on thyroid hormone replacement. J. Clin. Endocrinol. Metab. 91: 3389-3393.

# **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### **SOURCE**

Triiodothyronine (3H286) is a mouse monoclonal antibody raised against Triiodothyronine of human origin.

## **PRODUCT**

Each vial contains 100  $\mu g \; lg G_{2a}$  in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## **APPLICATIONS**

Triiodothyronine (3H286) is recommended for detection of Triiodothyronine of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures

# **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

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