



Correction

Correction: Lin, K.-H., et al. Molecular Functions of Thyroid Hormone Signaling in Regulation of Cancer Progression and Anti-Apoptosis. *Int. J. Mol. Sci.*, 2019, 20, 4986

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The authors wish to make the following corrections to this paper [1]:

There were labeling mistakes in the column TR α 2 displaying the T3 binding ability in the original version of Figure 1 (page 3). Circulating THs interact with thyroid hormone receptors to promote downstream signaling pathways and activate transcription factors. The four major TR isoforms, TR α 1, TR α 2, TR β 1, and TR β 2, are produced by *c-erbA α* and *c-erbA β* genes. Their human homologs are designated THRA and THRB. The *c-erbA α* gene located on chromosome 17 encodes two different TR α isoforms. One is functional TH-binding TR α 1 and the other is a dominant-negative splice variant, TR α 2, lacking TH binding activity [2]. T3 interacts with thyroid hormone receptors via C-terminal activation function-2 (AF-2) in the ligand-binding domain (LBD), however, only TR α 2 has a distinct C-terminal extension and absent activation function-2 (AF-2) region, which suggested that TR α 2 does not bind T3 [3]. TR α 2 is unique in regard to its lack of binding to THs while interacting with DNA, and its precise function is unclear at present. We have made a correction to show that the TR α 2 did not bind T3 and marked presence or lack of presence of the AF-2 domain in Figure 1 as follows:

Thyroid Hormone Receptor isoforms	T ₃ binding ability	Presence of AF-2	Distribution in tissue-specific	Structure of Thyroid Hormone Receptor
TR α 1	Yes	Yes	Kidney, Skeletal muscle, Lungs, Heart, Testes and Brain	
TR α 2	No	No	Kidney, Skeletal muscle, Lungs, Heart, Testes and Brain	
TR β 1	Yes	Yes	Kidney, Thyroid, Liver and Brain	
TR β 2	Yes	Yes	Anterior pituitary, Hypothalamus, and Developing brain	

A/B Amino terminal A/B
 C DNA-binding domain (DBD)
 D Hinge region
 E F Carboxy-terminal ligand-binding domain

Figure 1. TR isoforms and structure distribution. Thyroid hormone receptors (TR) contain several domains, specifically, the amino terminal A/B that may function as a gene enhancer, the DNA-binding domain (DBD), the hinge region containing the nuclear localization signal and the carboxy-terminal ligand-binding domain that binds T₃. The four major TR isoforms are TR α 1, TR α 2, TR β 1, and TR β 2. TH binding is widely distributed in a tissue-specific manner such as TR α 1 and TR α 2 expressed in the kidney, skeletal muscle, lungs, heart, and testes, with particularly high levels detected in the brain. TR β 1 expression is significant in the brain, thyroid, liver, and kidney while the TR β 2 isoform is specifically expressed in the anterior pituitary, hypothalamus, and developing brain.

The authors would like to apologize for any inconvenience caused to the readers by these changes.

References

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