

Serotonin



IDK® Serotonin ELISA

Competitive ELISA for the quantitative determination of Serotonin in serum and dried blood spots

- ▶ Serotonin controls well-being and contentment and curbs appetite
- ▶ Serotonin is decreased in depression and obesity
- ▶ Reliable serotonin determination with simplified preanalytics: transport without cooling of samples via postal service due to DrySpot-ID® Technology



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Serotonin

Serotonin is a tissue hormone and neurotransmitter in the central nervous system (CNS), gut nervous system, cardiovascular system, and in blood. It affects the gastrointestinal function and the CNS signaling.

Serotonin mediates a feeling of serenity, inner peace, and happiness. It suppresses anxiety, aggressiveness, grief, and hunger. The relevance of serotonin serum levels in cases of psychiatric imbalance are frequently discussed as serotonin cannot pass the blood-brain barrier.

Serotonin levels in persons with depression

It is not surprising that low serotonin serum levels are correlated with depression. As Yildiz et al. demonstrated in a study with women with post-partum depression (Fig. 1)¹. This study confirms the results of other studies, showing reduced serum levels of serotonin in patients with post-partum depression², melancholy³, or patients with depression following a stroke⁴. With stroke, the serotonin serum levels correspond well with serotonin levels in the cerebrospinal fluid. At the same time it is possible to alleviate depression by increasing the serotonin level⁵.

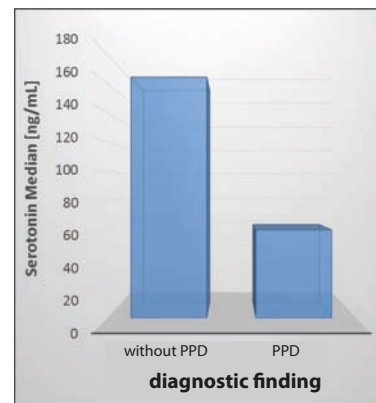


Fig. 1: Reduced level of serotonin in post-partum depression (PPD, also called puerperal depression), Yildiz et al. 2017

Serotonin in obesity/adiposity

Serotonin plays an important role in weight and energy homeostasis. Ritze et al. demonstrated lowered levels of serotonin in overweight persons⁶. In a review Namkung et al., summarized the negative effects of lower serotonin levels on the feeling of satiety and the energy balance⁷.

In simple terms: serotonin takes the excess of sugar in the blood and transports it to muscle cells and to the glycogen storage in the liver cells. At the same time, serotonin supports the catabolism of fat in white adipose tissue.

Conclusion: Low levels of serotonin affect well-being and might be correlated to obesity. Under therapy these levels should, therefore, be specifically checked and increased.

Innovation: Up to now the determination of serotonin in serum has not been reliable in particular due to the instability of serotonin in uncooled samples. However, the development of the **DrySpot-ID® Technology** provides a solution to stabilize the analytes in the sample. Therefore now transport without cooling of samples via the postal system is possible.

IDK® Serotonin	
Matrix	Serum, dried blood spots
Sample volume	25 µL (serum) 50 µL (dried blood spots)
Test principle	ELISA
Cat. No.	K 6880

Also available:

IDK® Tryptophan ELISA (serum, plasma, urine, dried blood samples) (K 7730)

IDK® Tryptophan ELISA (stool) (K 7729)

IDK® Tryptophan high sensitive ELISA (KR3730) (for research use only)



US: all products: Research Use Only. Not for use in diagnostic procedures.

Literature:

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