



## Serotonin Controls

Catalog Number: ADI-900-175-CTL  
Size: 1 vial/low, 1 vial/medium, 1 vial/high

### Background

Serotonin (5-hydroxytryptamine, 5-HT) is a monoamine found in the central nervous system, gastrointestinal tract, and blood with broad physiological functions as a neurotransmitter, in gastric motility, hemostasis, and cardiovascular integrity.<sup>1</sup> Defects in serotonin signaling have been linked to a large number of complex behavioral disorders in humans, including anxiety and depression, autism, and eating disorders<sup>2</sup>, and to neurodegenerative disorders such as Parkinson's<sup>3</sup>. Platelets serve as the major reservoir of serotonin in the bloodstream. When activated, platelets release serotonin into the bloodstream where it acts as a powerful vasoconstrictor<sup>4</sup>. Treatment with Selective Serotonin Uptake Inhibitors (SSRIs) dramatically reduces platelet serotonin concentrations<sup>5</sup>, and altered levels of serotonin in the circulatory system are implicated in such diverse conditions such as asthma<sup>6</sup>, liver cirrhosis<sup>7</sup> and carcinoid tumors<sup>8</sup>.

### Intended Use and Description

The intention is for these products to be used as quantitative controls when determining Serotonin concentration in biological matrices, such as serum, plasma, platelets, and urine. The control concentration ranges have been determined using the Enzo Life Sciences Serotonin ELISA kit (ADI-900-175) and the lot specific ranges will be included on the CoA. The controls are lyophilized and will need to be prepared in assay buffer provided in the Serotonin ELISA kit ADI-900-175. The Serotonin controls provided are at a high, medium and low Serotonin concentration.

### Materials Supplied

Serotonin High Control, Component No. 80-2193  
Serotonin Medium Control, Component No. 80-2194  
Serotonin Low Control, Component No. 80-2195

### Storage and Stability

The lyophilized controls should be stored at or below -20°C. The controls can be stored at -20°C short term but should be stored at -80°C for long term storage. The material should be used before the expiration date indicated on the lot specific Certificate of Analysis.

### Reagent Preparation

The high, medium, and low controls are each prepared by reconstitution in 0.5mL of assay buffer from the Enzo Life Sciences Serotonin ELISA kit (ADI-900-175). Once reconstituted the working concentration is ready to be assayed by applying the controls directly to the assay plate per the instructions provided in the ADI-900-175 Serotonin ELISA kit insert. Only the assay buffer provided in the Serotonin ELISA kit should be used for reconstitution of the controls. **Please note that these controls are intended to be single-use only.**



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### Procedure and Expected Values

Please refer to the appropriate lot specific CoA for lot specific ranges for the high, medium and low Serotonin controls.

### Technical Information

The lot specific ranges described on the CoA were determined using the Enzo Life Sciences Serotonin ELISA kit (ADI-900-175). Use of ELISA kits other than the Serotonin ELISA kit (ADI-900-175) could result in values different than those printed on the corresponding lot Certificate of Analysis. If the expected values are not obtained please confirm that the correct volume of the control was assayed and that the controls were properly prepared using the assay buffer from the Serotonin ELISA kit (ADI-900-175).

### References

1. Pineyro, G. and Blier, P. (1999) *Pharmacol Rev.* 51, 533-591.
2. Murphy D.L., et al. (2008) *Neuropharmacology* 55, 932- 60.
3. Fox S.H., Chuang R., Brotchie J.M., *Mov. Disord.* 24, 1255-66.
4. Golino P., et al., (1989) *Circulation* 79, 154-166.
5. Hergovich N., et al., (2000) *Clin. Pharmacol. Ther.* 68, 435-42.
6. Lechin F., van der Dijs B., Orozco B., Lechin M. and Lechin A.E. (1996) *Ann. Allergy Asthma Immunol.* 77, 245-253.
7. Culafic D.M., et al. (2007) *World J. Gastroenterol.* 13, 5750-3.
8. Kema, I.P., et al. (1992) *Clin. Chem.* 38, 534-540.

Catalog Number: ADI-900-175-CTL  
Document Number:PM-PL0108

Rev. 121223