

# Melatonin Immunoassays and Products

## Solutions for Sleep Disorder-Related Research



ALPCO is the exclusive distributor of NovoLytiX™ GmbH melatonin and related products in North America. NovoLytiX™ GmbH of Switzerland offers the most sensitive immunoassays for the measurement of melatonin and its key metabolite in urine, 6-sulfatoxymelatonin, including products formerly offered by BÜHLMANN Laboratories. Assays are available for multiple sample types, including saliva and urine which offer non-invasive, simple collection.

### Why Measure Melatonin Levels?

Researchers measure melatonin for many reasons, including to:

- Establish an individual's circadian rhythm and explore related disorders
- Identify shifts that disrupt normal biological functions and physiological disorders
- Determine an individual's dim light melatonin onset (DLMO) time point
- Explore disruptions in the sleep-wake cycle

### Melatonin as a Biomarker for Circadian Rhythm Disorders

Melatonin is an endogenously expressed hormone and a key modulator of seasonal and circadian biorhythms. The rise and fall of circulating levels of melatonin correlate with circadian rhythm, making it a useful biomarker for the identification and monitoring of circadian rhythm disorders. These include disorders related to jet lag, night shift work, delayed sleep phase syndrome (DSPS), advanced sleep phase syndrome (ASPS), and aging.

### 6-sulfatoxymelatonin (aMT6s) as a Surrogate Biomarker

Melatonin has a half-life in humans of just 10 to 60 minutes, and more than 90% of circulating melatonin is deactivated by the liver. Through a series of processes, melatonin is converted into 6-sulfatoxymelatonin (aMT6s) which is excreted and can be measured in urine as a surrogate biomarker. The advantage of measuring 6-sulfatoxymelatonin is the ability to assess pineal function by urine sampling, since urine contains only traces (~1%) of non-metabolized melatonin. Urinary aMT6s levels closely mimic the melatonin profile of the general population, and first morning urine samples can be used to evaluate the total melatonin synthesis of the prior night. Measuring 6-sulfatoxymelatonin in urine provides a non-invasive, integrated parameter to assess circadian rhythms over a period of time.

#### NEW! Melatonin ELISA

Catalog # 12-MLTN-96-U  
Sensitivity: 0.3 pg/mL  
Range: 0.9 - 35 pg/mL  
Sample: Saliva, Serum, Plasma, other biological fluids

#### Direct Saliva Melatonin ELISA

Catalog # 12-EK-DSM-U  
Sensitivity: 0.5 pg/mL  
Range: 1.6 - 20.5 pg/mL  
Sample: Saliva

#### 6-sulfatoxymelatonin ELISA

Catalog # 12-EK-M6S-U  
Sensitivity: 0.14 ng/mL  
Range: 0.8 - 40 ng/mL  
Sample: Urine

All products are Research Use Only. Not for diagnostic purposes.



## Dim Light Melatonin Onset (DLMO)

During the transition from day to evening, melatonin production is induced. This event is known as dim light melatonin onset (DLMO) and a melatonin profile can be used to determine an individual's DLMO time point. Generally, DLMO occurs between 9 and 11 PM with a peak in melatonin levels between 3 and 4 AM. When endogenous melatonin levels show increases and decreases outside of these expected time points, the sleep-wake cycle can become delayed or advanced.

## Available Sleep Disorder-Related Immunoassays and Products

Item	Catalog #	Sample Type
6-sulfatoxymelatonin ELISA	12-EK-M6S-U	Urine
Direct Saliva Melatonin RIA	12-RK-DSM2-U	Saliva
Direct Saliva Melatonin ELISA	12-EK-DSM-U	Saliva
Melatonin RIA*	12-RK-MEL2-U	Serum, Plasma, Urine
Melatonin ELISA	12-MLTN-96-U	Saliva, Serum, Plasma
Vasopressin Direct RIA	12-RK-VPD-U	EDTA Plasma, Urine
Vasopressin RIA*	12-RK-AR1-U	EDTA Plasma, Urine
Vasopressin ELISA (AVP/ADH)	74-VSPHU-E01.1	Cell Culture, Plasma, Serum
Item	Catalog #	Description
Melatonin Extraction Set	12-MLTN-EXSET-U	For use with 12-MLTN-96 for serum and plasma. Suitable for 80 extractions. Includes 20 extraction columns, low and high controls, and incubation buffer.
Salivette Collection Devices	12-B-SVC50-U	For simple, hygienic collection and storage of saliva samples. Each box contains 50 units.
Melatonin Extraction Columns	12-B-MECX	For use with 12-RK-MEL2-U. C18 solid phase extraction columns available in boxes of 10x10 units for extraction from biological samples.
Angiotensin/Vasopressin Extraction Columns	12-B-AECX	For use with 12-RK-AR1-U. Reversed phase columns containing 100 mg phenylsilylsilica available in boxes of 10x10 units for extraction from biological samples.

\*Extraction recommended. See associated extraction device

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