














# BioCLIA<sup>®</sup> Autoimmune Calibrator Set

## *Nucleosome*

### Nucleosome Assay Calibrators

#### Key to Symbols Used

	Catalog Number		Expiration Date
	For <i>In Vitro</i> Diagnostic Use		Lot Number
	Store between +2°C and +8°C		Consult Instruction for Use
	Manufacturer		Authorized Representative in European Union
	Calibrator 1		Contains Sufficient for $< n >$ Tests
	Calibrator 2		Chemical Risk Warning
			Biological Risk Warning

# BioCLIA® Nucleosome Calibrator Set

Nucleosome	CAL	2
------------	-----	---

## Intended Use

The BioCLIA Autoimmune Calibrator Set,, Nucleosome is intended for the calibration of the BioCLIA Nucleosome performed on the BioCLIA® 1200 and BioCLIA® 6500.

## Catalog Numbers

MY00212 (2 X 1 mL)

MY00263 (4 X 1 mL)

## Summary and Principles of the Procedure

Anti-nuclear antibody (ANA) is a class of auto-antibodies with different binding affinities specific to different nuclear antigens. Generally, ANAs include extractable nuclear antigen (ENA) antibodies and un-extractable nuclear antigen antibody.<sup>1</sup> Determination of ANA has significant correlation to the diagnosis of Sharp syndrome (MCTD), systemic lupus erythematosus (SLE), sjogren's syndrome, progressive systemic sclerosis, polymyositis/dermatomyositis, overlap syndrome, and limited types of progressive systemic sclerosis (CREST syndrome).

Nucleosomes (Nuc) are chromosome subunits composed of histone (H1, H2A, H2B, H3 or H4) and dsDNA.<sup>2, 3</sup> H3-H3-H4-H4 tetramer and H2A-H2B dimer on both sides form the center of the Nuc in which the core of His is surrounded by two circles of DNA double helix (a total of 146 base pairs). The Nuc are bead-shape arranged and connected to each other by the help of DNA and H1. Complete Nuc antigens in the body is mainly produced in the process of cell apoptosis and released into the interstitial cells, which may trigger the body to produce autoimmune response.<sup>4,5</sup>

Anti-Nuc antibodies are associated with various autoimmune diseases, common in SLE (50-100%) and autoimmune hepatitis (40-50%) patients' sera. They are confirmed independent of the anti-dsDNA antibodies that 18% of SLE patient sera are Nuc sensitive but dsDNA insensitive. Therefore, monitoring both anti-Nuc and anti-dsDNA antibodies can greatly improve the SLE serological detection rate.

## Materials supplied

- **Nucleosome Calibrator 1** A tube contains 1mL, ready to use reagent. Calibrator 1 contains human antibodies to Nucleosome in stabilizers and preservatives.

Nucleosome	CAL	1
------------	-----	---

Preservatives: NaN<sub>3</sub> < 0.1%.

- **Nucleosome Calibrator 2** A tube contains 1mL, ready to use reagent. Calibrator 2 contains human antibodies to Nucleosome in stabilizers and preservatives.

Preservatives: NaN<sub>3</sub> < 0.1%.

Target value information is indicated in the 2D barcode localized in each kit.

## Warnings and Precautions

The human derived material in this product was tested by FDA approved methods and found nonreactive for Hepatitis B Surface Antigen (HBsAg), Anti-HCV and HIV 1/2 antibodies. Handle as if potentially infectious.<sup>6</sup> Avoid contacting with skin and eyes. Do not empty into drains. Wear suitable protective clothing.

Precautions:



Human serum is added in the Calibrators.

- The product is for *in vitro* diagnostic use only.
- Do not use any calibrators beyond their expiration dates. Do not mix calibrators from different lots unless specified.
- Instructions must be carefully followed for using and storing of calibrators. Any modification in procedure may interfere with the results. Calibrators and contaminated vials must be handled strictly following safety guidelines or rules of biological hazards to ensure the users' and environmental safety.
- Calibrators contain chemical and biological components. Avoid ingesting or splashing onto skin and mucous membrane. If direct contact with calibrators happens, rinse immediately the contact surface with plenty of water and see a doctor if necessary.

## Storage Conditions

The kit is stable until the expiration date, if stored and handled as directed. Routine store the kit in refrigerator (2-8°C). Once a calibrator tube is opened, it is good for a total of 15 times, no more than 2 hours per time when kept uncapped, onboard the instrument, after which the reagent must be discarded. Three freeze-thaw cycles before testing has no effect on the kit reagents.

## Assay Procedure

Note that, for obtaining optimal performance, it is important to perform all routine maintenance procedures as defined in the BioCLIA® 1200 and BioCLIA® 6500 User Manual.

See the BioCLIA® 1200 and BioCLIA® 6500 User Manual for preparation, setup, dilutions, adjustment, assay and quality control procedures.

## Traceability

The reported values were determined over multiple runs on the BioCLIA® 1200 and BioCLIA® 6500 using specific lots of reagents against an in-house standard. Nucleosome results are reported

in RU/mL which is interpreted from relative light unit (RLU). Method comparison test showed good sensitivity and specificity of tested assay.

#### **Limitations**

This product is designed as calibrators for monitoring the performance of the BioCLIA Nucleosome. These calibrators are subjected to the limitations of the assay system. Deviations may indicate problems with one or more components in the test system.

#### **References**

1. Tan EM. Autoantibodies to nuclear antigens (ANA): their immunobiology and medicine. *Advances in Immunology* 1982;33:167-240.
2. Luger K, Mäder AW, Richmond RK, Sargent DF, Richmond TJ. Crystal structure of the nucleosome core particle at 2.8 Å resolution. *Nature* 1997;389:251-60.
3. Harp JM, Hanson BL, Timm DE, Bunick GJ. Asymmetries in the nucleosome core particle at 2.5 Å resolution. *Acta Crystallographica Section D: Biological Crystallography* 2000;56:1513-34.
4. Zhou Y-B, Gerchman SE, Ramakrishnan V, Travers A, Muyldermans S. Position and orientation of the globular domain of linker histone H5 on the nucleosome. *Nature* 1998;395:402-05.
5. Thoma F, Koller T, Klug A. Involvement of histone H1 in the organization of the nucleosome and of the salt-dependent superstructures of chromatin. *The Journal of cell biology* 1979;83:403-27.
6. Richmond JY, Mckinney RW. Biosafety in microbiological and biomedical laboratories: U.S.GPO. 1999.



HOB Biotech Group Co., Ltd



C6 Building, No. 218 Xinghu Road, Suzhou Industrial Park,  
Suzhou, Jiangsu, 215123, China

**REGISTRANT/MANUFACTURE:** HOB Biotech Group Co., Ltd

#### **ADDRESS/LOCATION:**

C6 Building, No. 218 Xinghu Road, Suzhou Industrial Park, Suzhou, Jiangsu, 215123 China

**CONTACT INFORMATION:** TEL (+86)512-69561996  
Fax (+86)512-62956652

**WEBSITE:** [www.hob-biotech.com](http://www.hob-biotech.com)

**CUSTOMER SERVICE:** HOB Biotech Group Co., Ltd

**CUSTOMER SERVICE CONTACT:** TEL (+86)4008601202



**EUROPE REPRESENTATIVE:** Emergo Europe

#### **ADDRESS/LOCATION:**

Prinsessegracht 20, 2514 AP The Hague, The

Netherlands

#### **Technical Assistance**

For technical assistance, contact your National Distributor.

17<sup>th</sup> April 2019

Revision 9