## BioCLIA Autoimmune Calibrator Set, IAA

| Cat.No. | Kit Size |
|---|---|
| MY00235 | 2 X 1 mL |
| MY00286 | 4 X 1 mL |

### INTENDED USE

The BioCLIA Autoimmune Calibrator Set, IAA is intended for the calibration of the BioCLIA IAA performed on the BioCLIA 6500 and BioCLIA 500.

For professional *in vitro* diagnostic use only.

### SUMMARY AND EXPLANATION

Type 1 diabetes, also known as insulin-dependent diabetes mellitus (IDDM), results from a chronic autoimmune destruction of the insulin-secreting pancreatic beta cells, probably initiated by exposure of genetically susceptible host to an environmental agent. [1] Autoimmune destruction of beta cells is thought to be completely asymptomatic until 80 - 90% of the cells are lost. This process may take years to complete and may occur at any time. [2]

During the preclinical phase, this autoimmune process is marked by circulating autoantibodies to beta cell antigens. These autoantibodies are present years before the onset of type 1 diabetes and prior to clinical symptoms. Early studies utilized the immunofluorescence test for islet-cell antibodies (ICA), which has been difficult to standardize and is now replaced by a combination of several radioimmunoassays for antibodies against specific beta cell antigens, such is insulin (IAA), glutamic acid decarboxylase (IA2) and tyrosine phosphatase ICA 512 (IA2). [3]

IA2, a member of the protein tyrosine phosphatases family is localized in the dense granules of pancreatic beta cells and the second defined recombinant islet cell antigen. IA2 shares sequence identity with the islet cell antigen 512. The higher frequency of antibodies to IA2 is explained by the presence of autoantibodies directed to the COOH terminus of IA2 which is lacking in the ICA512 molecule. [4]

IA2 autoantibodies are present in the majority of individuals with new-onset type 1 diabetes and in individuals in the pre-diabetic phase of the disease. The appearance of autoantibodies to IA2 seems to be correlated with the rapid progression to overt type 1 diabetes. [5]

The combination of tests for IA265 and IA2 autoantibodies is highly relevant for risk assessment of type 1 diabetes in children and adolescence. The screening for IA265 and IA2 autoantibodies detect more than 90 % of subjects at risk for type 1 diabetes and may, therefore, possess the potential to replace ICA technique. [6]

### MATERIALS SUPPLIED

- **IAA Calibrator 1** Barcode labeled tubes with buffer containing human antibodies to IAA in stabilizers and preservatives. Ready to use, 1 mL.

CAL | 1

Preservatives: 0.0015% < Proclin 300 < 0.6%.

- **IAA Calibrator 2** Barcode labeled tubes with buffer containing human antibodies to IAA in stabilizers and preservatives. Ready to use, 1 mL.

CAL | 2

Preservatives: 0.0015% < Proclin 300 < 0.6%.

The Calibrator Code contains calibrators' information is provided in each kit.

### WARNINGS AND PRECAUTIONS

- For professional *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.
- Any serious incident that has occurred in relation to the device shall be reported to the manufacturer and the competent authority of the Member State in which the user and/or the patient is established!

**Precautions:**

 Human serum is added in the calibrators.

- 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. [7] Avoid contacting with skin and eyes. Do not empty into drains. Wear suitable protective gloves and clothing.

- Proclin 300 is added in the calibrators at concentration between 0.0015% - 0.6%.
- 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

- Store the kit at 2-8 °C.
- The shelf life of the unopened kit is 12 months from day of production.
- Vial opened calibrators could be used for 28 successive days,

exposure no more than 2 hours each time when kept uncapped and is good for up to 20 calibrations, after which the reagent must be discarded.

- Avoid repeated freezing and thawing.

**ASSAY PROCEDURE**

Detailed information about operating the BioCLIA instruments can be taken from the Instrument User's Manual.

Note that, it is important to perform all routine maintenance procedures for optimal performance.

***Assay Calibration***

The BioCLIA Autoimmune Reagent Kit utilizes a predefined lot specific Master Curve which is uploaded into the instrument via the barcode provided in the main reagent kit. The Calibrator Code contains calibrator information is then scanned. Based on the results of running two calibrators, the instrument specific Working Calibration Curve is generated and is used to calculate the concentration from the RLU obtained for each patient.

For each new lot of reagent, please calibrate prior to the first time use, and every 28 days thereafter. The software will not allow the lot to be used if the above requirements are not meet.

***Programming and Running samples***

1. Put the kit into the corresponding position of the reagent chamber of the fully automatic chemiluminescence analyzer. The information of the kit can be uploaded into the instrument system through the scanning of reagent barcode, and can also be set through the supporting software of the instrument.
2. The information of calibrator / quality control is identified by scanning the calibrator / control barcodes, and the position of calibrator / quality control is assigned in the instrument system.
3. The sample to be tested is placed on the instrument sample rack chamber, and the corresponding test information is edited through the instrument supporting software.
4. Start the operation procedure, and all calibrator / quality control / sample processing steps will be automatically executed.

**TRACEABILITY**

The reported values were determined over multiple runs on the BioCLIA 6500 and BioCLIA 500 using specific lots of reagents against an in-house standard. DGP IgA 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**

- The calibrators are designed for calibration of the same lot of BioCLIA Autoimmune Reagent Kit.
- The calibrators can be kept uncapped onboard the instrument up to 2 hours for each time of usage. And a total up to 20 calibrations are suggested, for any longer period of time, the reagent should be discarded, otherwise may result in improper calibration of the assay and which can give improper results.

**SYMBOLS**

| | | | |
|---|---|---|---|
| REF | Catalog Number | | Use-by date |
| IVD | In Vitro diagnostic medical device | LOT | Lot Number |
| +2°C +8°C | Store between +2°C and +8°C | | Consult Instruction for Use |
| | Manufacturer | EC REP | Authorized Representative in the European Community |
| CE | CE Marking | Σ | Contains Sufficient for<n>Tests |
| | Biological Risk | | GHS07 Warning |
| CAL 1 | Calibrator 1 | | |
| CAL 2 | Calibrator 2 | | |

**REFERENCE**


1. Seissler J, Hatziagelaki E, Scherbaum W. Modern concepts for the prediction of type 1 diabetes. Experimental and Clinical Endocrinology & Diabetes 2001;109:S304-S16.
2. Sonksen P, Sonksen J. Insulin: understanding its action in health and disease. Br J Anaesth 2000;85:69-79.
3. Duckworth WC, Bennett RG, Hamel FG. Insulin degradation: progress and potential 1. Endocr Rev 1998;19:608-24.
4. Davidson MB, Kumar D, Smith W. Successful treatment of unusual case of brittle diabetes with sulfated beef insulin. Diabetes Care 1991;14:1109-10.
5. Fineberg SE, Kawabata TT, Finco-Kent D, Fountaine RJ, Finch GL, Krasner AS. Immunological responses to exogenous insulin. Endocr Rev 2007;28:625-52.
6. Bluestone JA, Herold K, Eisenbarth G. Genetics, pathogenesis and clinical interventions in type [thinsp] 1 diabetes. Nature 2010;464:1293-300.
7. Richmond JY, McKinney RW. Biosafety in Microbiological and Biomedical Laboratories. U.S. Department of Health and Human Services, Public Health Service, 4th Edition; 1999.


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**The eIFU is available on Website:**
http://en.hob-biotech.com/usercenter/login.aspx

**TECHNICAL ASSISTANCE**

For technical assistance, contact your National Distributor.

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