

## LAMPIRAN

### Lampiran 1. Ethical Clearance



**RS PKU MUHAMMADIYAH  
YOGYAKARTA**  
*ALMAUN (Amanah, Lengkap, Mutu, Antusias, Universal, Nyaman)*

**KOMITE ETIK PENELITIAN**  
Sekertariat Diklat RS PKU Yogyakarta  
Email kepk.rspku@gmail.com  
Telp/WA 08895701255

### **PEMBEBASAN ETIK ETHICAL EXEMPTION**

No. 00349/KT.7.4/XII/2025

Protokol penelitian yang diusulkan oleh :  
*The research protocol proposed by*

Peneliti Utama  
*The research protocol proposed by* : DONI WAHYU SAPUTRO, A.Md.Kes.

Nama Institusi  
*Name of the Institution* : Politeknik Kesehatan Kementerian Kesehatan Yogyakarta

Dengan Judul  
*Title*

**"PERBEDAAN KADAR ALBUMIN PASIEN SEPSIS RUANG INTENSIF YANG DIPERIKSA SEGERA DAN SETELAH PENGAMBILAN 14 JAM PADA SUHU RUANG 25?"**

**"DIFFERENCE IN ALBUMIN LEVELS OF SEPSIS PATIENTS IN THE INTENSIVE CARE UNIT EXAMINED IMMEDIATELY AND AFTER COLLECTION OF 14 HOURS AT ROOM TEMPERATURE (25°C)"**

Dinyatakan dikecualikan dari etik sesuai 7 (tujuh) Standar WHO 2011, yaitu 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, 4) Risiko, 5) Bujukan/Eksploitasi, 6) Kerahasiaan dan Privacy, dan 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indikator setiap standar.

*Declared to be ethically exempted in accordance to 7 (seven) WHO 2011 Standards, 1) Social Values, 2) Scientific Values, 3) Equitable Assessment and Benefits, 4) Risks, 5) Persuasion/Exploitation, 6) Confidentiality and Privacy, and 7) Informed Consent, referring to the 2016 CIOMS Guidelines. This is as indicated by the fulfillment of the indicators of each standard.*

Pernyataan Layak Etik ini berlaku selama kurun waktu tanggal 09 December 2025 sampai dengan tanggal 08 December 2026

*This declaration of ethics applies during the period 09 December 2025 sampai dengan tanggal 08 December 2026*

Professor and Chairperson  
Yogyakarta, 09 December 2025



## Lampiran 2. Ijin Penelitian



## RS PKU MUHAMMADIYAH YOGYAKARTA

ALMAUN (Amanah, Lengkap, Mutu, Antusias, Universal, Nyaman)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

19 Jumadil Akhir 1447 H / 09 Desember 2025 M

Nomor : 312-1 / P1.24.2 / XII / 2025

Hal : Ijin Penelitian

**Kepada Yth.**  
**Ketua Program Studi Teknologi Laboratorium Medis**  
**Poltekkes Kemenkes Yogyakarta**  
**di tempat**

*Assalamu'alaikum Warohmatullahi Wabarokatuh*

Berdasarkan surat permohonan dari Komite Etik Penelitian RS PKU Muhammadiyah Yogyakarta Nomor: 00347/SRIP/KEP-PKU/XII/2025 tertanggal 9 Desember 2025 tentang penerbitan surat ijin penelitian Saudara :

**Nama Peneliti : Doni Wahyu Saputro, A.Md.Kes**  
**NIM : P713423325056**  
**Judul Penelitian : Perbedaan Kadar Albumin Pasien Sepsis Ruang Intensif Yang Diperiksa Segera dan Setelah Pengambilan 14 Jam pada Suhu Ruang 25°C**

Bersama ini disampaikan bahwa, kami RS PKU Muhammadiyah Yogyakarta **mengabulkan** permohonan izin penelitian tersebut, **dengan ketentuan :**

1. Bersedia mentaati peraturan yang berlaku di RS PKU Muhammadiyah Yogyakarta;
2. Bersedia mengganti barang yang rusak selama menjalankan penelitian;
3. Bersedia menyerahkan pas foto 2 x 3 sebanyak 1 lembar untuk tanda pengenalan;
4. Bersedia memberikan biaya administrasi sebesar Rp. 0,- berlaku untuk kurun waktu 6 (enam) bulan dan diselesaikan sebelum pelaksanaan;
5. Setelah selesai pengambilan data penelitian di RS PKU Muhammadiyah Yogyakarta, peneliti wajib melapor ke Fasilitator rumah sakit dengan membawa hasil penelitian yang **belum** diujikan untuk dikoreksi dan dibuatkan surat keterangan selesai penelitian;
6. Peneliti wajib menyerahkan hasil penelitian yang telah diujikan dan disahkan kepada RS PKU Muhammadiyah Yogyakarta melalui Diklat dalam bentuk *soft* dan *hard file*;
7. Selama melakukan penelitian, berkonsultasi dengan fasilitator dari rumah sakit, yaitu :  
**Umar Ismail, A.Md.AK**

Jika ketentuan-ketentuan diatas tidak dapat dipenuhi maka dengan terpaksa kami akan meninjau ulang kerjasama dengan institusi bersangkutan untuk waktu-waktu selanjutnya.

Demikian pemberitahuan ijin penelitian ini disampaikan, atas perhatian dan kerjasamanya diucapkan terimakasih.

*Wassalamu'alaikum Warohmatullahi Wabarokatuh*



**dr. H. Muhammad Komarudin, Sp.A**  
**NBM. 10660955**

**Tembusan :**

|                                     |                                  |
|-------------------------------------|----------------------------------|
| 1. Direktur SDI & AJK               | 3. Spv. Diklat                   |
| 2. Spv. Akuntansi Manajemen & Tarif | 4. Fasilitator yang bersangkutan |
|                                     | 5. Peneliti yang bersangkutan    |
|                                     | 6. Arsip                         |

Jalan KH. Ahmad Dahlan Nomor 20 Yogyakarta 55122

Telepon: (0274) 512653 Email : pkujogja@gmail.com

Fax/mile: (0274) 566129 Website : www.rs-pkujogja.com

## Lampiran 3. Data Penelitian

**HASIL PENELITIAN**  
**KADAR ALBUMIN PASIEN SEPSIS RUANG INTENSIF YANG DIPERIKSA SEGERA DAN**  
**SETELAH PENGAMBILAN 14 JAM PADA SUHU RUANG 25°C**

| NO | JENIS KELAMIN | SEBELUM | SESUDAH |
|----|---------------|---------|---------|
|    |               | (g/dL)  | (g/dL)  |
| 1  | L             | 2.4     | 2.3     |
| 2  | P             | 2.6     | 2.5     |
| 3  | L             | 2.1     | 2.1     |
| 4  | P             | 2.4     | 2.3     |
| 5  | L             | 2.2     | 2.1     |
| 6  | P             | 2.2     | 2.2     |
| 7  | L             | 2.7     | 2.7     |
| 8  | L             | 2.3     | 2.2     |
| 9  | P             | 2.9     | 2.8     |
| 10 | P             | 2.6     | 2.5     |
| 11 | L             | 2.6     | 2.5     |
| 12 | L             | 2.6     | 2.5     |
| 13 | P             | 2.2     | 2.1     |
| 14 | L             | 1.7     | 1.7     |
| 15 | P             | 2.2     | 2.1     |
| 16 | P             | 2.6     | 2.5     |
| 17 | L             | 3.1     | 3       |
| 18 | L             | 2.5     | 2.5     |
| 19 | P             | 2.7     | 2.6     |
| 20 | L             | 2.4     | 2.3     |
| 21 | P             | 2.8     | 2.8     |
| 22 | P             | 2.9     | 2.9     |
| 23 | P             | 3       | 2.9     |
| 24 | L             | 2.9     | 2.9     |
| 25 | P             | 2       | 2       |
| 26 | L             | 2.5     | 2.4     |
| 27 | L             | 2.5     | 2.5     |
| 28 | P             | 2.2     | 2.2     |
| 29 | P             | 2.8     | 2.8     |
| 30 | L             | 2.3     | 2.2     |
| 31 | L             | 2.8     | 2.8     |
| 32 | P             | 2.6     | 2.6     |
| 33 | P             | 2.5     | 2.5     |
| 34 | L             | 2       | 2       |
| 35 | P             | 2.3     | 2.2     |
| 36 | L             | 2.3     | 2.2     |
| 37 | P             | 2.7     | 2.7     |
| 38 | L             | 2.4     | 2.4     |
| 39 | P             | 2.5     | 2.5     |
| 40 | L             | 2.9     | 2.8     |

Yogyakarta, 20 Januari 2026

Supervisor Laboratorium RS

RS PKU Muhammadiyah Yogyakarta



Umar Ismail, A.Md.AK.

## Lampiran 4. Hasil Statistik

### Tests of Normality

|                                                                                            | Shapiro-Wilk |    |             |
|--------------------------------------------------------------------------------------------|--------------|----|-------------|
|                                                                                            | Statistic    | df | Sig.        |
| Kadar Albumin Pasien Sepsis Yang Diperiksa Segera Pada Suhu Ruang 25°C                     | .981         | 40 | <b>.744</b> |
| Kadar Albumin Pasien Sepsis Yang Diperiksa Setelah Pengambilan 14 Jam Pada Suhu Ruang 25°C | .964         | 40 | <b>.227</b> |

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### Paired Samples Test

|                                                                                                                                                                             | Paired Differences |                |                 | 95% Confidence Interval of the Difference |       | t     | df | Sig. (2-tailed) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|-----------------|-------------------------------------------|-------|-------|----|-----------------|
|                                                                                                                                                                             | Mean               | Std. Deviation | Std. Error Mean | Lower                                     | Upper |       |    |                 |
|                                                                                                                                                                             |                    |                |                 |                                           |       |       |    |                 |
| Pair 1 Kadar Albumin pasien sepsis yang segera diperiksa pada suhu ruang 25C - Kadar Albumin pasien sepsis ruang intensif yang diperiksa setelah 14 jam pada suhu ruang 25C | .0525              | .0506          | .0080           | .0363                                     | .0687 | 6.565 | 39 | .001            |

## Lampiran 5. Reagen KIT Albumin



| <b>ALBUMIN</b>        |                  |           |
|-----------------------|------------------|-----------|
| <b><u>OSR6102</u></b> | <b>4 x 29 mL</b> | <b>R1</b> |
| <b><u>OSR6202</u></b> | <b>4 x 54 mL</b> | <b>R1</b> |

**Intended Use**

Photometric colour test for the quantitative determination of albumin in human serum and plasma on Beckman Coulter analysers. For *in vitro* diagnostic use only.

**Summary**<sup>1,2</sup>

Albumin is the most abundant protein in human plasma, representing 55-65% of the total protein. Its primary biological functions are to transport and store a wide variety of ligands, to maintain the plasma oncotic pressure and to serve as a source of endogenous amino acids. Albumin binds and solubilises non-polar compounds such as plasma bilirubin and long-chain fatty acids as well as binding numerous pharmaceuticals. Hyperalbuminemia is infrequent and is caused by severe dehydration and excessive venous stasis. Hypoalbuminemia may be caused by impaired synthesis e.g. in liver disease or in protein deficient diets; increased catabolism as a result of tissue damage and inflammation; reduced absorption of amino acids caused by malabsorption syndromes or malnutrition; protein loss to the exterior as observed in nephrotic syndrome, enteropathy or burns; and altered distribution e.g. in ascites. Severe hypoalbuminemia results in a serious imbalance of intravascular oncotic pressure causing the development of edema.

Measurements of albumin concentrations are vital to the understanding and interpretation of calcium and magnesium levels because these ions are bound to albumin, and so decreases of albumin are also directly responsible for depression of their concentrations.

**Test Principle**<sup>3</sup>

A coloured complex is formed when bromocresol green reacts with albumin. The absorbance of the albumin-BCG complex is measured bichromatically (600/800nm) and is proportional to the albumin concentration in the sample.

**Reaction Principle****Contents, Reagent Composition in the Test**

Final concentration of reactive ingredients:

|                           |            |
|---------------------------|------------|
| Succinate buffer (pH 4.2) | 100 mmol/L |
| Bromocresol green         | 0.2 mmol/L |
| Preservative              |            |

**Precautions and Warnings**

Hazard Warnings and Risk Phrases:

R1: Irritant, contains a mixture of 5-chloro-2-methyl-4-isothiazolin-3-one [EC No 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC No 220-239-6] (3:1). R43: May cause sensitisation by skin contact.

Safety Phrases:

S24, S37, S60. Avoid contact with skin. Wear suitable gloves. This material and its container must be disposed of as hazardous waste. Dispose of all waste material in accordance with local guidelines.

Refer to Safety Data Sheets for further information.

**Reagent Preparation**

The reagent is ready for use and can be placed directly on board the instrument.

**Storage and Stability**

The reagent is stable, unopened, up to the stated expiry date when stored at 2...25°C. Once open, reagent stored on board the instrument is stable for 90 days.

**Specimen**

Serum and EDTA or heparinised plasma.

Separate from cells immediately. Separated plasma and serum is stable at 2...8°C for 30 days and at 15...25°C for 7 days.<sup>4</sup>

**Test Procedure**

Refer to the appropriate User Guide and Setting Sheet for analyser-specific assay instructions for the sample type as listed in the Intended Use statement. The paediatric application is suitable for use with small volume serum/plasma samples.

**Calibration**

System Calibrator Cat. No. 66300.

The calibrator albumin value is traceable to IFCC (International Federation of Clinical Chemistry) standard CRM 470. Recalibrate the assay when the following occur:

Change in reagent lot number or significant shift in control values;

Major preventative maintenance was performed on the analyser or a critical part was replaced.

## Lampiran 6. Monitoring Suhu

Bulan November

Form.No.010/IFRS/Suhu

**FORMULIR MONITORING SUHU DAN KELEMBABAN RUANGAN**  
**RUMAH SAKIT PKU MUHAMMADIYAH YOGYAKARTA**

Unit : Laboratorium Bulan : November 2025

| Suhu  | Jam   | Tanggal |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|-------|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|       |       | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 32°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 31°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 21°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| RH %  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Paraf | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Catatan : Bila suhu tidak memenuhi syarat segera lapor supervisor ( syarat suhu ruangan < 30° C, Kelembaban 35-80 %)

Supervisor :  
  
 Umar Ismail

Bulan Desember

Form.No.010/IFRS/Suhu

**FORMULIR MONITORING SUHU DAN KELEMBABAN RUANGAN**  
**RUMAH SAKIT PKU MUHAMMADIYAH YOGYAKARTA**

Unit : Laboratorium Bulan : Desember 2025

| Suhu  | Jam   | Tanggal |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-------|-------|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|       |       | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 32°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 31°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 21°C  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| RH %  | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Paraf | 12.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|       | 24.00 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

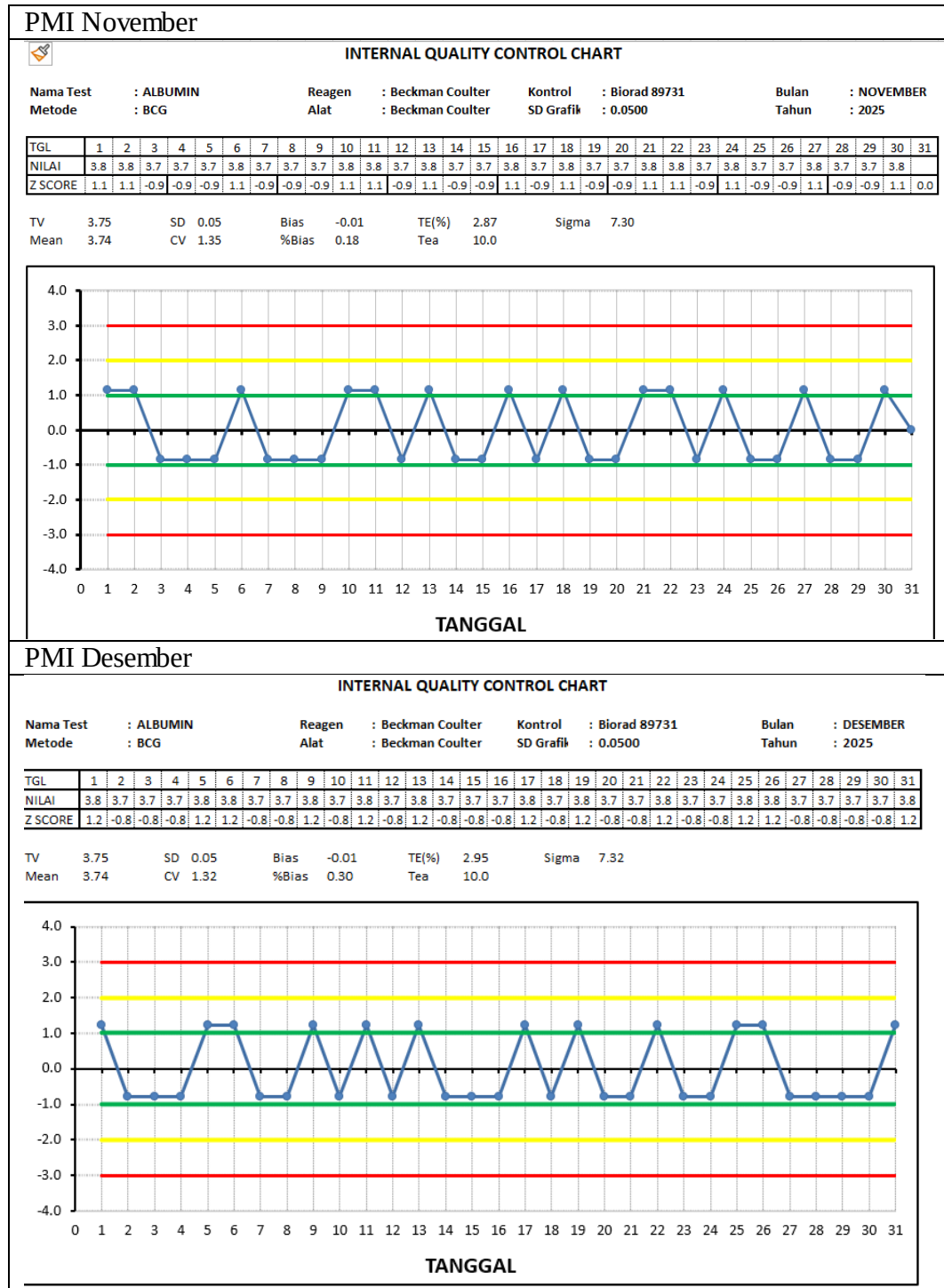
Catatan : Bila suhu tidak memenuhi syarat segera lapor supervisor ( syarat suhu ruangan < 30° C, Kelembaban 35-80 %)

Supervisor :  
  
 Umar Ismail

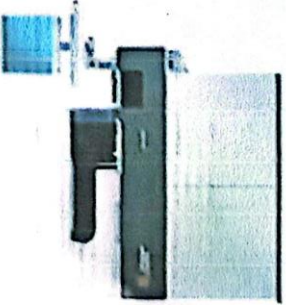
Lampiran 7. Sertifikat PME

|                                                                                                                                                                                      |                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>INA EQAS</b><br><small>INDONESIAN EXTERNAL QUALITY ASSURANCE SERVICE</small>               | <br><b>YKAN</b><br><small>KEMENTERIAN KESKATAN DAN KESELATAN RI<br/>PUP-Q28-IDN</small>         |
| <b>INDONESIAN EXTERNAL QUALITY ASSURANCE SERVICE (INA EQAS)</b><br><b>PERHIMPUNAN DOKTER SPESIALIS PATOLOGI KLINIK DAN</b><br><b>KEDOKTERAN LABORATORIUM INDONESIA (PDS-PatKlin)</b> |                                                                                                                                                                                      |
| <h1>Sertifikat</h1>                                                                                                                                                                  |                                                                                                                                                                                      |
| Diberikan Kepada:<br><b>PKU MUHAMMADIYAH YOGYAKARTA</b><br>telah mengikuti Program Pemantapan Mutu External INAEQAS – PDS PatKlin:                                                   |                                                                                                                                                                                      |
| Bidang : Kimia Klinik<br>Siklus : 1 - 2025                                                                                                                                           |                                                                                                                                                                                      |
| <br><u>Prof. Dr. Mstgr, Subsp. G.E.H(K), Ph.D</u><br>Ketua INAEQAS                                  | <br><u>Prof. DR. Dr. Arvati, MS, Sp.PK, Subsp. P.(K), Subsp. I.(K)(K)</u><br>Ketua PP PDS PatKlin |
| <small>*Sudah Terakreditasi bidang : Kimia Klinik, Hematologi, Hemostasis, Urinalisis</small>                                                                                        |                                                                                                                                                                                      |

## Lampiran 8. Hasil PMI Albumin



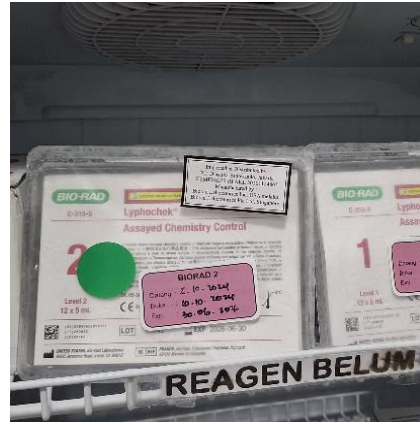
Lampiran 9 . Sertifikat Kalibrasi alat kimia *Beckman Coulter AU480*

|                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <h1>SERTIFIKAT KALIBRASI</h1> <p>No : BC_Cert_DB_74185_03</p>                                                                                                                                                                                                                                                                                                                                      |                                                                                                                           |
| <p>Kami selaku agen tunggal produk  di Indonesia menerangkan bahwa :</p>                                                                                                                                                                                                                                        |                                                                                                                           |
| <h2>Beckman Coulter™ AU480 Chemistry Analyzer</h2> <p>S/N 2021074185</p>                                                                                                                                                                                                                                                                                                                           |                                                                                                                           |
| <p>Telah dilakukan preventive maintenance, kalibrasi dan dinyatakan telah memenuhi syarat berdasarkan standar QC pabrik dan alat berfungsi dengan baik. Kalibrasi yang dilakukan meliputi coolant temperature, bath temperature, tegangan, test equipment dan safety test.</p>                                                                                                                     |                                                                                                                           |
| <p>Diterbitkan Tanggal : 08 Maret 2024</p>                                                                                                                                                                                                                                                                     | <p>Berlaku Hingga : 08 Maret 2025</p>  |
| <p>PT. Diastika Biotekindo</p> <p><br/>Handoyo Selyawan<br/>Service Manager</p> <p> <b>BECKMAN COULTER</b>  Diastika Biotekindo</p> |                                                                                                                           |

## Lampiran 10. Dokumentasi Penelitian



Beckman Coulter AU480



Kontrol Kimia Biorad



Sampel Pemeriksaan



Reagen Albumin



Pemantauan Suhu



Input dan Running Sampel

Lampiran 11. Surat Keterangan Selesai Penelitian



**RS PKU MUHAMMADIYAH  
YOGYAKARTA**

*ALMAUN (Amanah, Lengkap, Mutu, Antusias, Universal, Nyaman)*

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

**SURAT KETERANGAN**

Nomor : 0750 / PL.24.6 / IV / 2026

*Assalamu'alaikum Warohmatullahi Wabarokatuh*

Direktur Utama RS PKU Muhammadiyah Yogyakarta, memberikan keterangan bahwa :

Nama Peneliti : Doni Wahyu Saputro, A.Md.Kes  
NIM : P713423325056  
Institusi : Poltekkes Kemenkes Yogyakarta

Telah selesai melaksanakan penelitian di RS PKU Muhammadiyah Yogyakarta dengan judul:

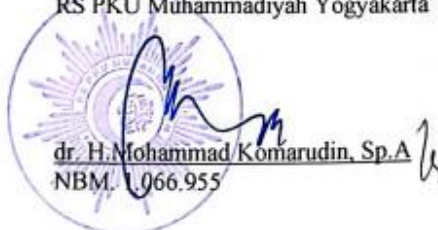
**PERBEDAAN KADAR ALBUMIN PASIEN SEPSIS RUANG INTENSIF YANG  
DIPERIKSA SEGERA DAN SETELAH PENGAMBILAN 14 JAM PADA SUHU  
RUANG 25°C**

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

*Wassalamu'alaikum Warohmatullahi Wabarokatuh*

Yogyakarta, 9 April 2026

Direktur Utama,  
RS PKU Muhammadiyah Yogyakarta

  
dr. H. Mohammad Komarudin, Sp.A  
NBM. 1.066.955