External Quality Assessment
Product Catalogue 2018
The Path to Perfect Quality
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Labquality – EQAS

Labquality is an independent external quality assessment provider from Finland owned by various non-profit organizations. Labquality has over 45 years’ of experience in helping clinical laboratories and POCT sites to develop and maintain their performance. Labquality’s EQA schemes are internationally recognized high quality programs. EQA programs have clinical scope with educational touch. Part of the EQA production is outsourced to expert laboratories and national partners.

Integrated EQA service

Labquality is the first EQA provider, who has integrated pre-analytical, analytical and post-analytical phases to its EQA programs. Advanced and traditional EQA schemes have been designed to fully support laboratory’s total quality management system and fulfill ISO 15189 requirements concerning the extra-analytical phases. Integrated EQA schemes include samples and pre- and post-analytical questionnaires concerning the scope of the scheme.

Quality management

Labquality’s management system is certified according to ISO 9001 (DQS) and main EQA schemes (299) are accredited according to ISO 17043 (PT02/FINAS). Certificates and scope of accreditation are available on our website www.labquality.fi.

EQA service availability

Labquality has customers in over 50 countries in Europe, Asia, America and North Africa. Service is localized by 25 national partners. All digital schemes including pre-analytical schemes and diagnostic schemes for anatomic pathology are available globally. All schemes (with few exceptions) are available via national partners in Europe, Middle East and Central Asia. For direct customers the program selection is limited to the schemes with stable and non-hazardous sample materials.

Enrolment and prices

Labquality has annual programs and pricing. Participants shall place their orders for next year before the end of November to ensure the participation to all needed EQA rounds. Enrolment is possible during the calendar year, but only part of the EQA rounds may be available. To place an order, please contact to our national partner in your country or Labquality’s customer service at info@labquality.fi.

Deliveries

Labquality’s specimen logistics system is accepted and continuously audited as a part of accreditation according to ISO 17043 (PT02/FINAS) standard. Specimens are shipped according to annual schedule. Labquality retains the right to make changes to the schedule.

LabScala EQA portal

Partners and participants are able to operate the whole EQA process from orders to reports via modern web based software, LabScala. EQA process is designed to go along with laboratory process from pre-analytics to post-analytics. Easy availability and user-friendly interface guarantee advanced experience.

Certificate

Certificate of participation will be issued to all participants in the end of calendar year. Certificate refers to EQA reports to evaluate the performance of the participant.

Customer service

Please contact to Labquality’s national partner (listed on Labquality’s web site: www.labquality.fi) or customer service (English) at info@labquality.fi.

### How to use the catalogue

#### Scheme code and name

<table>
<thead>
<tr>
<th>Scheme code and name</th>
<th>Rounds (delivery months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1234</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12</td>
</tr>
</tbody>
</table>

#### Additional info

<table>
<thead>
<tr>
<th>EQA =</th>
<th>= Integrated EQA service</th>
<th>NEW =</th>
<th>= New product</th>
<th>POCT =</th>
<th>= Suitable for Point-of-Care testing sites</th>
<th>VIRTUAL =</th>
<th>= Virtual microscopy</th>
</tr>
</thead>
</table>

#### Notes:

Specimens:

Examinations:

1. How to use the catalogue

2. Scheme code and name

3. Additional info

4. Rounds (delivery months)

5. Notes:
Updates for 2018

New schemes and products

7130 ECG, interpretation (p. 33)
8817 HI-L-index [DEKS] (p. 32)
5086 Human papillomavirus, nucleic acid detection (p. 28)
5300 Respiratory infections multiplex, nucleic acid detection (p. 30)
5302 Sexually transmitted diseases multiplex, nucleic acid detection (p. 30)
2685 Tryptase [UK NEQAS] (p. 6)

Discontinued schemes

5970 Enteropathogens

New integrated EQA schemes (EQA³) (pre- and/or post-analytics included)

Integrated EQA schemes combine pre-analytical, analytical and post-analytical EQA to one scheme fulfilling ISO 15189 requirements.

5940 Coeliac disease, antibodies (p. 19)
2301 Hormones B: Steroid and peptide hormones (p. 9)
2200 Lipids and lipoproteins (p. 12)
2240 Proteins, electrophoresis (p. 13)
1072 Serum A, lyophilized samples (p. 9)
5060 Urine culture, quantitative screening (p. 25)
5065 Urine culture, quantitative screening, identification and susceptibility (p. 25)

Optional schemes

2221 Down's syndrome screening, quality assurance (p. 8)*

*) Will be organised, if there are at least 10 participants.

Changes in delivery schedule

2040 Bilirubin, neonatal (FEB, APR, JUN, AUG, OCT, DEC)
1002 Haemoglobin for analyzers (FEB, APR, JUN, AUG, OCT, DEC)
6543 Histological staining techniques (MAR, OCT)
6542 Histopathology, virtual microscopy (APR, OCT)
6600, 6600S Immunohistochemical staining methods (MAR, SEP, NOV)
2226 Prostate specific antigen (FEB, APR, JUL, OCT)

Changes in scope, specimens or parameters

2040 Bilirubin, neonatal
Specimens are not delivered together with Serum A anymore
5191 Faecal bacterial pathogens multiplex, nucleic acid detection
New scope: Multiplex
5191 Faecal bacterial pathogens multiplex, nucleic acid detection
New parameter: Samples may include EHEC
5190 Faecal culture
New parameter: Samples may include EHEC
2370 Folate, erythrocytes
New availability: Available globally
1002 Haemoglobin for analyzers
Specimens are not delivered together with Serum A anymore
5430 Malaria, antigen and nucleic acid detection
New parameter: Nucleic acid detection
1072, 1072S Serum A, lyophilized samples
Lyophilized specimens only
# Clinical Chemistry

## Allergology

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
<th>Specimens</th>
<th>Examinations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2675</td>
<td>Allergen component [UK NEQAS]</td>
<td>2 liquid human serum samples for allergen component tests</td>
<td>Allergen component test which covers recombinant allergens as well as the ISAC system</td>
<td>Participation is not possible for less than 6 rounds in a year. Should be ordered by November 13th, 2017.</td>
</tr>
<tr>
<td>2670</td>
<td>Allergy in vitro diagnostics [UK NEQAS]</td>
<td>2 liquid human serum samples for specific IgEs with 4 allergens in each specimen, 0.5 mL each and 1 serum specimen for total IgE, 0.5 mL</td>
<td>Total IgE and specific IgEs</td>
<td>Participation is not possible for less than 6 rounds in a year. Should be ordered by November 13th, 2017.</td>
</tr>
<tr>
<td>2681</td>
<td>Allergy in vitro diagnostics [SKML]</td>
<td>3 liquid human serum samples for specific IgEs with 3 allergens, 2 mixes and total IgE in each and some allergen components, 0.5 mL each</td>
<td>Total IgE, specific IgEs, allergen mixes and allergen components</td>
<td>Participation is not possible for less than 6 rounds in a year. Should be ordered by November 13th, 2017. All samples are distributed in February.</td>
</tr>
<tr>
<td>2680</td>
<td>Eosinophil cationic protein</td>
<td>1 lyophilized human serum sample, 0.3 mL</td>
<td>ECP</td>
<td>Results are processed in connection with total IgE results of scheme 2670.</td>
</tr>
</tbody>
</table>

## Basic Chemistry

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
<th>Specimens</th>
<th>Examinations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100</td>
<td>Basic chemistry, POCT analyzers</td>
<td>2 human serum samples, 1 mL each</td>
<td>Alanine aminotransferase, albumin, alkaline phosphatase, amylase (total and pancreatic), aspartate aminotransferase, calcium, chloride, HDL cholesterol, cholesterol, creatinekinase, creatinine, gamma glutamyltransferase, glucose, lactate dehydrogenase, magnesium, phosphorus, potassium, sodium, total protein, triglycerides, urea, uric acid</td>
<td>For clinical laboratories and POCT sites. Only for dry chemistry analyzers.</td>
</tr>
<tr>
<td>Code</td>
<td>Test Description</td>
<td>Specimens</td>
<td>Examinations</td>
<td>Notes</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------</td>
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<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2730</td>
<td>Erythrocyte sedimentation rate</td>
<td>1 artificial blood cell suspension, 4.5 mL</td>
<td>ESR</td>
<td></td>
</tr>
<tr>
<td>2731</td>
<td>Erythrocyte sedimentation rate: Alifax; Greiner tube</td>
<td>3 test tubes containing synthetic latex solution, 3 mL each</td>
<td>ESR</td>
<td></td>
</tr>
<tr>
<td>2732</td>
<td>Erythrocyte sedimentation rate: Alifax; Sarstedt tube</td>
<td>3 test tubes containing synthetic latex solution, 3 mL each</td>
<td>ESR</td>
<td></td>
</tr>
<tr>
<td>2750</td>
<td>Faecal occult blood</td>
<td>2 preparations that include human haemoglobin, ≥ 0.5 mL each</td>
<td>Detection of haemoglobin</td>
<td>For clinical laboratories and POCT sites</td>
</tr>
<tr>
<td>2114</td>
<td>Haemoglobin, 1-level, POCT</td>
<td>1 bovine hemolysate or human whole blood control sample, 1 mL</td>
<td>Haemoglobin</td>
<td>Only for POCT devices. Not suitable for Diaspect.</td>
</tr>
<tr>
<td>2113</td>
<td>Haemoglobin, 3-level samples, cell counters and analyzers</td>
<td>3 human whole blood control samples, 1 mL each (low, medium and high concentration)</td>
<td>Haemoglobin linearity with three samples. Reference values will be provided in the summary report.</td>
<td>For cell counters and analyzers</td>
</tr>
<tr>
<td>2112</td>
<td>Haemoglobin, 3-level samples, POCT</td>
<td>3 bovine or human samples, 1 mL each (low, medium and high concentration)</td>
<td>Haemoglobin linearity with three samples</td>
<td>Only for POCT devices. Not suitable for Diaspect.</td>
</tr>
<tr>
<td>1002</td>
<td>Haemoglobin for analyzers</td>
<td>2 hemolyzed samples, 1 mL</td>
<td>Haemoglobin</td>
<td>Order product 2114 for POCT Hb meters.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Clinical chemistry » Cardiac markers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1541</td>
<td>CRP, low concentration</td>
<td>1 human serum sample</td>
<td>CRP</td>
<td>CRP, low concentration sample is included in product 2541 Myocardiac markers and CRP</td>
</tr>
<tr>
<td>2540</td>
<td>Myocardial markers</td>
<td>2 fresh human samples or 2 liquid samples, 0.5-1 mL each</td>
<td>CK MB mass, myoglobin, quantitative troponin I, quantitative troponin T</td>
<td>Suits clinical laboratory analyzers. See also scheme 2530 Troponin I and T, detection for POCT.</td>
</tr>
</tbody>
</table>
### Diabetes analysis

<table>
<thead>
<tr>
<th>Code</th>
<th>Test Description</th>
<th>Specimens</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2570</td>
<td>Glucose meters 1, 2 and 3</td>
<td>1 whole blood or plasma sample</td>
<td>Suits clinical laboratories and POCT sites. Observe device specific product codes. 5 results processed with one order.</td>
</tr>
<tr>
<td>2580</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2590</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Glucose meters

- **Device specific product codes:**
  - 2570 for all glucose meters except Contour, HemoCue and On Call Plus
  - 2580 for HemoCue meters
  - 2590 for Contour meters
- **Specimens:** 1 whole blood or plasma sample

### Endocrinology

<table>
<thead>
<tr>
<th>Code</th>
<th>Test Description</th>
<th>Specimens</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2221</td>
<td>Down's syndrome screening, quality assurance</td>
<td>No sample analysis involved</td>
<td>Patient results are collected from risk management software (e.g. LifeCycle, Prisca) anonymously for data analysis. Will be delivered only if the number of participants is at least 10.</td>
</tr>
</tbody>
</table>

#### Haemoglobin A1c

- **Specimens:** 2 liquid blood samples, 0.5 mL each
- **Examinations:**
  - HbA1c

- **Notes:** Result processing in IFCC and DCCT units. Not suitable for Afinion instruments.

#### Haemoglobin A1c, liquid samples, POCT

- **Specimens:** 2 liquid blood samples, 0.5 mL each
- **Examinations:** HbA1c

- **Notes:** Result processing in IFCC and DCCT units. Not suitable for Afinion instruments.

#### Troponin I and Troponin T, detection, POCT

- **Specimens:** 2 fresh human samples or 2 liquid samples, 0.5 mL each
- **Examinations:** Detection of troponin I and troponin T

- **Notes:** Qualitative, semi-quantitative and quantitative results are processed. This scheme is only for POCT, scheme 2540 is for analyzers.

#### Natriuretic peptides 1, B-type, NT-ProBNP

- **Specimens:** 2 lyophilized or liquid samples, 1–2 mL each
- **Examinations:** NT-ProBNP

- **Notes:** Suits both clinical laboratories and POCT sites. Also suitable for Roche Cardiac Reader and Cobas h232.

#### Natriuretic peptides 2, B-type, BNP

- **Specimens:** 2 lyophilized or liquid samples, 1–2 mL each
- **Examinations:** BNP

- **Notes:** For clinical laboratories and POCT sites.
### Hormones A: Basic analytes of hormone and immunochemistry

**Specimens:** 2 human serum samples with differing concentrations, 3 mL each. Liquid serum sample (one level) included in Apr and Oct rounds. Pre- and/or post-analytical cases in part of the rounds.

**Examinations:** Digoxin, ferritin, folate, hCG (total, intact), T3, free T3, T4, free T4, TSH, vitamin B12, active vitamin B-12, pre- and/or post-analytical indicators

**Notes:** 2300S is a limited version of the scheme available for laboratories performing testing of 1–5 analytes. For additional set of samples, order scheme 1300.

### 1300 Hormones A, extra set of samples

**Specimens:** 2 human serum samples, 3 mL each

**Notes:** Only in connection with scheme 2300

### Hormones B: Steroid and peptide hormones

**Specimens:** 2 human serum samples with differing concentrations, 3 mL each. Liquid serum sample (one level) included in Apr, Aug and Dec rounds. Pre- and/or postanalytical cases in part of the rounds.

**Examinations:** Androstenedione, aldosterone, C-peptide, cortisol, DHEAS, estradiol, FSH, gastrin, growth hormone, IGF-1, insulin, LH, progesterone, 17-OH-progesterone, prolactin, SHBG, testosterone, free testosterone, TBG, pre- and/or post-analytical indicators

**Notes:** Reference values for 1 analyte in liquid serum will be provided. 2301S is a limited version of the scheme available for laboratories performing testing of 1–5 analytes. For additional set of samples, order scheme 1301.

### 1301 Hormones B, extra set of samples

**Specimens:** 2 human serum samples, 3 mL each

**Notes:** Only in connection with scheme 2301

### Parathyroid hormone

**Specimens:** 2 lyophilized human serum samples, 1 mL each

**Examinations:** PTH

### Clinical chemistry » General long-term clinical chemistry

#### 1031 DayTrol, human serum

**Specimens:** 1 lyophilized human serum sample, 5 mL. Lithium, magnesium, osmolality, phosphorus, potassium, protein, sodium, thyreotropin, thyroxine, thyroxine free, transferrin, transferrin receptor, triglycerides, urea, uric acid

**Notes:** Minimum order quantity of 10 bottles per year. Monthly processing of results included.

### Clinical chemistry » General short-term clinical chemistry

#### 2020 C-reactive protein (CRP) for analyzers

See specific proteins, page 12

#### 1072, 1072S Serum A, lyophilized samples

**Specimens:** Lyophilized serum sample, 3–5 mL each, samples are selected to cover a wide concentration range. Pre- and/or post-analytical cases in part of the rounds.

**Examinations:** Alanine aminotransferase, albumin, alkaline phosphatase, alpha-1-antitrypsin, alpha-1-glycoprotein, amylase, amylase (pancreatic), aspartate aminotransferase, bilirubin, calcium, chloride, copper, cortisol, creatine phosphokinase, creatinine, ferritin, gamma-glutamyltransferase, glucose, haptoglobin, IgA, IgE, IgG, IgM, iron, lactate, lactate dehydrogenase, lithium, magnesium, oroso-mucoid, osmolality, phosphorus, potassium, protein, sodium, thyreotropin, thyroxine, thyroxine free, transferrin, transferrin receptor, triglycerides, tri-iodio-thyronine, urea, uric acid, zinc, pre- and/or post-analytical indicators

**Notes:** Samples for multiple rounds shipped simultaneously. Monthly processing of results included. 1072S is a limited version of the scheme available for laboratories performing testing of 1–5 analytes.
### Alcohol in serum: Ethylene glycol in serum

**Specimens:** 1-level serum samples

**Examinations:** Ethylene glycol

### Alcohol in blood: Ethanol + methanol + isopropanol

**Specimens:** Ethanol: 2-level whole blood samples. Methanol and isopropanol: 1-level whole blood samples.

**Examinations:** Ethanol, methanol, isopropanol

### Alcohol in blood: Ethylene glycol in whole blood

**Specimens:** 1-level whole blood samples

**Examinations:** Ethylene glycol

### Alcohol in serum: Ethanol + methanol + isopropanol

**Specimens:** Ethanol: 2-level serum samples. Methanol and isopropanol: 1-level serum samples.

**Examinations:** Ethanol, methanol, isopropanol

### Alcohol in serum: Ethylene glycol in serum

**Specimens:** 1-level serum samples

**Examinations:** Ethylene glycol

### Ammonium ion

**Specimens:** 2 serum based or buffered samples

**Examinations:** Ammonium ion

### Angiotensin convertase (ACE)

**Specimens:** 1 liquid and 1 lyophilized human serum sample, 1 mL each

**Examinations:** ACE

### Bile acids

**Specimens:** 2 pooled human serum samples, 0.5 mL each

**Examinations:** Bile acids

### Bilirubin, conjugated

**Specimens:** 2 lyophilized or liquid samples

**Examinations:** Total bilirubin, conjugated bilirubin

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**Clinical chemistry » Special chemistry**

### Acid-base status and electrolytes

**Specimens:** 3 buffered artificial samples, 2.5 mL each. Pre- and/or post-analytical cases in part of the rounds.

**Examinations:** Chloride, creatinine, glucose, ionized calcium, ionized magnesium, lactate, pCO2, pH, pO2, potassium, sodium, urea, base excess, HC03, pre- and/or post-analytical cases

**Notes:** Order own sample set for each analyzer. For clinical laboratories and POCT sites.

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**Clinical chemistry**
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Specimens</th>
<th>Examinations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2040</td>
<td>Bilirubin, neonatal</td>
<td>2 lyophilized samples, 1–3 mL</td>
<td>Bil, neo</td>
<td></td>
</tr>
<tr>
<td>8702</td>
<td>Chromogranin A [NKK]</td>
<td>3 genuine human serum samples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8805</td>
<td>Cystatin C [DEKS]</td>
<td>2 human plasma samples with reference target values, 0.75 mL each</td>
<td>P-Cystatin C</td>
<td>Participation is not possible for less than 2 rounds a year</td>
</tr>
<tr>
<td>2370</td>
<td>Folate, erythrocytes</td>
<td>1 human whole blood sample, 1 mL each</td>
<td>Blood folate and erythrocyte folate</td>
<td></td>
</tr>
<tr>
<td>2150</td>
<td>Haemoxymeters</td>
<td>2 lyophilized samples, 0.5 mL each</td>
<td>F02Hb, FCOHb, FMETHb, ctHb, sO2</td>
<td>Order own sample set for each analyzer</td>
</tr>
<tr>
<td>8816</td>
<td>Homocysteine [DEKS]</td>
<td>2 human plasma or serum samples</td>
<td>P-Homocysteine</td>
<td>Participation is not possible for less than 5 rounds in a year</td>
</tr>
<tr>
<td>8815</td>
<td>Methyl malonate [DEKS]</td>
<td>2 human serum samples</td>
<td>P-Methyl-malonate</td>
<td>Participation is not possible for less than 5 rounds in a year</td>
</tr>
<tr>
<td>2651</td>
<td>Nasal swab cells</td>
<td>4 digital images of MGG and methylene eosin stained samples</td>
<td>Eosinophils, neutrophils</td>
<td></td>
</tr>
<tr>
<td>2652</td>
<td>Sputum cells</td>
<td>4 digital images of MGG and methylene eosin stained samples</td>
<td>Eosinophils, neutrophils</td>
<td></td>
</tr>
<tr>
<td>2640</td>
<td>Synovial fluid crystals</td>
<td>3 slides prepared from patient samples</td>
<td>Sodium urate monohydrate and calcium pyrophosphate dihydrate crystals</td>
<td></td>
</tr>
<tr>
<td>2410</td>
<td>Therapeutic drugs</td>
<td>2 liquid or lyophilized human serum samples, volume 5 mL each</td>
<td>Amikasin, amitriptyline, carbamazepine, carbamazepine free, cyclosporine,</td>
<td>paracetamol (acetaminophen), phenobarbital, phenytoin, phenytoin free, primidone, procainamide, quinidine, salicylate, theophylline, tobramycin, tricyclics, valproic acid, valproic acid free, vancomycin</td>
</tr>
<tr>
<td>2040</td>
<td>Bilirubin, neonatal</td>
<td>2 liquid or lyophilized human serum samples, volume 5 mL each</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8702</td>
<td>Chromogranin A [NKK]</td>
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<tr>
<td>8805</td>
<td>Cystatin C [DEKS]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2370</td>
<td>Folate, erythrocytes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2150</td>
<td>Haemoxymeters</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8816</td>
<td>Homocysteine [DEKS]</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8815</td>
<td>Methyl malonate [DEKS]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2651</td>
<td>Nasal swab cells</td>
<td></td>
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<tr>
<td>2652</td>
<td>Sputum cells</td>
<td></td>
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<tr>
<td>2640</td>
<td>Synovial fluid crystals</td>
<td></td>
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<tr>
<td>2410</td>
<td>Therapeutic drugs</td>
<td></td>
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</tbody>
</table>
### Specific proteins

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
<th>Specimens</th>
<th>Examinations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>C-reactive protein (CRP) for analyzers</td>
<td>2 liquid serum or plasma samples</td>
<td>CRP</td>
<td>Notes: Scheme is designed only for clinical chemistry analyzers. Order scheme 2132 for POCT CRP meters.</td>
</tr>
<tr>
<td>2132</td>
<td>C-reactive protein (CRP), POCT</td>
<td>2 human serum samples, 1 mL each</td>
<td>CRP</td>
<td>Notes: Only for quantitative POCT CRP meters</td>
</tr>
<tr>
<td>2140</td>
<td>Decialotransferrin [EQUALIS]</td>
<td>2 human plasma samples, varying concentration of CDT</td>
<td>CDT</td>
<td>Notes: Participation is not possible for less than 6 rounds in a year</td>
</tr>
<tr>
<td>2751</td>
<td>Faecal calprotectin</td>
<td>2 lyophilized faecal specimens, 0.5 mL each</td>
<td>Calprotectin</td>
<td></td>
</tr>
<tr>
<td>2200</td>
<td>Lipids and lipoproteins</td>
<td>2 fresh human serum samples, 0.5–1 mL each. Pre- and/or post-analytical cases in part of the rounds.</td>
<td>Cholesterol, HDL cholesterol, LDL cholesterol, lipoprotein apo A1, lipoprotein apo A2, lipoprotein apo B, lipoprotein (a), triglycerides, pre- and/or post-analytical indicators</td>
<td>Notes: Separate round for Lp(a), see scheme 2202</td>
</tr>
<tr>
<td>2202</td>
<td>Lipoprotein a</td>
<td>1 liquid or lyophilized human serum preparation</td>
<td>Lp(a)</td>
<td></td>
</tr>
<tr>
<td>2280</td>
<td>Procalcitonin</td>
<td>2 liquid or lyophilized samples</td>
<td>Procalcitonin</td>
<td>Notes: Only for quantitative methods</td>
</tr>
<tr>
<td>2160</td>
<td>Proteins in cerebrospinal fluid</td>
<td>1 cerebrospinal fluid, 1.8 mL and 1 human serum sample, 1 mL</td>
<td>Cerebrospinal fluid: Albumin, IgG, total protein, IgG index. Serum: Albumin, IgG.</td>
<td></td>
</tr>
</tbody>
</table>

**Clinical chemistry**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
<th>Specimens</th>
<th>Examinations</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2132</td>
<td>C-reactive protein (CRP), POCT</td>
<td>2 human serum samples, 1 mL each</td>
<td>CRP</td>
<td>Notes: Only for quantitative POCT CRP meters</td>
</tr>
<tr>
<td>2020</td>
<td>C-reactive protein (CRP) for analyzers</td>
<td>2 liquid serum or plasma samples</td>
<td>CRP</td>
<td>Notes: Scheme is designed only for clinical chemistry analyzers. Order scheme 2132 for POCT CRP meters.</td>
</tr>
<tr>
<td>2140</td>
<td>Decialotransferrin [EQUALIS]</td>
<td>2 human plasma samples, varying concentration of CDT</td>
<td>CDT</td>
<td>Notes: Participation is not possible for less than 6 rounds in a year</td>
</tr>
<tr>
<td>2751</td>
<td>Faecal calprotectin</td>
<td>2 lyophilized faecal specimens, 0.5 mL each</td>
<td>Calprotectin</td>
<td></td>
</tr>
<tr>
<td>2200</td>
<td>Lipids and lipoproteins</td>
<td>2 fresh human serum samples, 0.5–1 mL each. Pre- and/or post-analytical cases in part of the rounds.</td>
<td>Cholesterol, HDL cholesterol, LDL cholesterol, lipoprotein apo A1, lipoprotein apo A2, lipoprotein apo B, lipoprotein (a), triglycerides, pre- and/or post-analytical indicators</td>
<td>Notes: Separate round for Lp(a), see scheme 2202</td>
</tr>
<tr>
<td>2202</td>
<td>Lipoprotein a</td>
<td>1 liquid or lyophilized human serum preparation</td>
<td>Lp(a)</td>
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<tr>
<td>2280</td>
<td>Procalcitonin</td>
<td>2 liquid or lyophilized samples</td>
<td>Procalcitonin</td>
<td>Notes: Only for quantitative methods</td>
</tr>
<tr>
<td>2160</td>
<td>Proteins in cerebrospinal fluid</td>
<td>1 cerebrospinal fluid, 1.8 mL and 1 human serum sample, 1 mL</td>
<td>Cerebrospinal fluid: Albumin, IgG, total protein, IgG index. Serum: Albumin, IgG.</td>
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</table>
### Proteins, electrophoresis

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</thead>
<tbody>
<tr>
<td>Specimens: 2 liquid or lyophilized human serum samples, 0.5–1 mL each. Pre- and/or post-analytical cases in part of the rounds.</td>
<td>Examinations: Electrophoresis, contains immunofixation, pre- and/or post-analytical indicators</td>
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### Proteins, immunochemical determinations

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</tr>
</thead>
<tbody>
<tr>
<td>Specimens: 2 liquid or lyophilized human serum samples, 1 mL each</td>
<td>Examinations: Alpha-1-antitrypsin, alpha-2-macroglobulin, albumin, ceruloplasmin, complement C3, complement C4, haptoglobin, hemopexin, IgA, IgG, IgLcKappa, IgLcLambda, IgLcKappa free, IgLcLambda free, IgM, orosomucoid, pre-albumin, RBP, transferrin, transferrin receptor</td>
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### Clinical chemistry » Tumour markers

#### Prostate specific antigen

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</thead>
<tbody>
<tr>
<td>Specimens: 2 liquid human serum samples, 1 mL each</td>
<td>Examinations: PSA, complexed PSA, free PSA, free/total PSA ratio</td>
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#### Tumour markers

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</thead>
<tbody>
<tr>
<td>Specimens: 2 liquid human serum samples, 2 mL each</td>
<td>Examinations: AFP, CA 125, CA 153, CA 199, CEA, ferritin, hCG (total, intact, beta-subunit), PSA, PSA free, PSA free/total index, TG, TG antibodies, beta-2-microglobulin, Anti-Müllerian hormone, NSE, HE4</td>
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<td>Notes: 2700S is a limited version of the scheme available for laboratories performing testing of 1–5 analytes.</td>
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#### Tumour markers, extra set of samples

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</thead>
<tbody>
<tr>
<td>Specimens: 2 liquid human serum samples, 2 mL each</td>
<td>Notes: Only in connection with scheme 2700</td>
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### Clinical chemistry » Urine analysis

#### Albumin and creatinine in urine

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</tr>
</thead>
<tbody>
<tr>
<td>Specimens: 2 liquid human urine samples with spiked albumin and creatinine, 4 mL each</td>
<td>Examinations: Albumin, creatinine, albumin-creatinine ratio</td>
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<td>Notes: Only for quantitative methods</td>
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#### Drug abuse screening in urine

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</tr>
</thead>
<tbody>
<tr>
<td>Specimens: 2 authentic samples, 5 mL each</td>
<td>Examinations: alpha PVP, amphetamines, barbiturates, benzo-diazepines, buprenorphine, cannabinoids, carbamazepine, cocaine metabolites, codeine, gammahydroxybutyrate, LSD, MDMA+MDA (Ecstasy), MDPV, metazolalol, methadone metabolites, morphine, opiates, oxycodone, paracetamol, phencyclidine, phentanyline, propoxyphene, salicylate, tramadol, tricyclic antidepressants</td>
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<tr>
<td>Notes: For clinical laboratories and POCT sites. Expert laboratory confirmatory results are provided. Results are reported as positive or negative.</td>
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#### Pregnancy test

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</tr>
</thead>
<tbody>
<tr>
<td>Specimens: 2 fresh urine samples, 1 mL each</td>
<td>Examinations: Qualitative hCG</td>
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<tr>
<td>Notes: For clinical laboratories and POCT sites</td>
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#### Urine, identification of cells and other particles

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</tr>
</thead>
<tbody>
<tr>
<td>Specimens: 4 digital images</td>
<td>Examinations: Identification of cells and other particles</td>
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<tr>
<td>Notes: Images are also available as paper prints, see scheme 3201</td>
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</tbody>
</table>
Specimens: 1 lyophilized or liquid urine, 12–15 mL


Notes:
- Also suitable for automatic analyzers (erythrocytes and leukocytes counting). The arbitrary concentrations of the obtained strip test results will only be collected in order to avoid different groupings of positive categories used by different strip tests and user laboratories. Water for dissolution of the lyophilized sample available, see scheme 3131, should be ordered separately.

---

Specimens: Images of scheme 3200 as paper prints

Notes: Only in connection with scheme 3200

---

Specimens: 1 lyophilized or liquid urine, 8–10 mL

Examinations: Albumin, amylase, calcium, chloride, cortisol-free, creatinine, glucose, inorganic phosphate, magnesium, osmolality, pH, potassium, protein, relative density, sodium, urea, uric acid

Notes: For clinical laboratories and POCT sites. Water for dissolution available, see scheme 3101, should be ordered separately.

---

Specimens: 1 lyophilized urine sample with varying concentrations, 15 mL

Examinations: Glucose, ketones, leukocytes, nitrite, pH, protein, blood, relative density

Notes: For clinical laboratories and POCT sites. Water for dissolution available, see scheme 3101, should be ordered separately.

---

Specimens: 15 mL water for dissolution of lyophilized samples of scheme 3130

Notes: Only in connection with scheme 3130

---

EQA schemes for **blood banks**

**Blood transfusion serology**
- 4420 ABO and Rh grouping
- 4460 Antibody screening and compatibility testing
- 4440 Antiglobulin test, direct
- 4480 Blood grouping, gel cards, virtual scheme (trial)

**Bacterial serology**
- 5880 Syphilis serology

**Bacteriology**
- 5100 Blood culture
- 5101 Blood culture, screening

**Virology, serological tests**
- 5650 Cytomegalovirus, antibodies
- 5092 Hepatitis A, antibodies
- 5093 Hepatitis B, s-antigen antibodies, quantitative
- 5094–5096 Hepatitis B and C, serology
- 5091 HIV, antibodies
- 5089 Human T-cell lymphotropic virus, antibodies
- 5660 Parvovirus B19, antibodies

**Virology, molecular tests**
- 5679 Hepatitis B virus, nucleic acid detection (DNA)
- 5678 Hepatitis C virus, nucleic acid detection (RNA)
- 5680 HIV-1, nucleic acid detection (RNA)
The haematology offering consists of schemes for blood transfusion serology, cell count and morphology as well as coagulation tests. Specialties include the Erythrocyte sedimentation rate for Alifax as well as the White blood cell count and INR schemes for POCT. Units performing blood transfusions find EQA schemes for hepatitis B and C, HIV as well as other infectious diseases under the microbiology portfolio.

### Haematology » Blood transfusion serological tests

<table>
<thead>
<tr>
<th>Code</th>
<th>Test Description</th>
<th>Specimens</th>
<th>Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>4420</td>
<td>ABO and Rh grouping</td>
<td>2 whole blood samples</td>
<td>ABO &amp; Rh reactivity and interpretation, pre- and/or post-analytical indicators</td>
</tr>
<tr>
<td>4460</td>
<td>Antibody screening and compatibility testing</td>
<td>2 whole blood samples</td>
<td>Reaction strengths and interpretation, pre- and/or post-analytical indicators</td>
</tr>
<tr>
<td>4440</td>
<td>Antiglobulin test, direct</td>
<td>2 red blood cell suspensions</td>
<td>Reaction strengths and interpretation, pre- and/or post-analytical indicators</td>
</tr>
<tr>
<td>4480</td>
<td>Blood grouping, gel cards, virtual scheme</td>
<td>3-5 cases and digital images</td>
<td>Interpretation of the cases and reaction strengths of the digital images</td>
</tr>
</tbody>
</table>

### Haematology » Cell count and cell morphology

<table>
<thead>
<tr>
<th>Code</th>
<th>Test Description</th>
<th>Specimens</th>
<th>Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100</td>
<td>Basic blood count, one specimen</td>
<td>1 blood cell suspension</td>
<td>Hb, HCT, MCH, MCHC, MCV, PLT, RBC, RDW (red cell distribution width), WBC, cumulative patient means of MCH, MCHC, MCV</td>
</tr>
<tr>
<td>4110</td>
<td>Basic blood count, two specimens</td>
<td>2 blood cell suspensions</td>
<td>Hb, HCT, MCH, MCHC, MCV, PLT, RBC, RDW (red cell distribution width), WBC, cumulative patient means of MCH, MCHC, MCV</td>
</tr>
<tr>
<td>4180</td>
<td>Leucocyte differential count and evaluation of blood cell morphology, virtual microscopy</td>
<td>2–3 patient cases as virtual slide images</td>
<td>Leucocyte differential count and evaluation of red blood cells</td>
</tr>
</tbody>
</table>
### Leucocyte differential count, 3-part, automated

**Specimens:** 1 blood cell suspension, 2–4 mL  
**Examinations:** Absolute numbers of leucocytes, lymphocytes, mononuclear cells and granulocytes  
**Analyzer specific product codes:**  
4200: ABX, Advia, Cell-Dyn, Coulter, Nihon Kohden Celltac MEK  
4201: Sysmex

### Leucocyte differential count, 5-part, automated

**Specimens:** 1 blood cell suspension, 2–4 mL  
**Examinations:** Leucocytes, basophils, eosinophils, granulocytes, lymphocytes and monocytes  
**Analyzer specific product codes:**  
4238: Abacus  
4236: Mindray  
4234: ABX Pentra  
4237: Nihon Kohden Celltac MEK  
4231: Cell-Dyn  
4230: Siemens Advia  
4232: Coulter  
4235: Coulter ACT5-diff

### Malaria, antigen and nucleic acid detection

**Specimens:** 3 whole blood samples  
**Examinations:** Antigen and nucleic acid detection. Target antigens: HRP2 and/or pLDH and/or aldolase.  
**Notes:** For clinical laboratories and POCT sites

### Parasites in blood, Giemsa stain

**Specimens:** 2 Giemsa stained smears. Brief case histories are also given. Authentic samples.  
**Examinations:** Screening and identification of malaria plasmodia and other blood parasites

### Parasites in blood, May-Grünwald-Giemsa stain

**Specimens:** 2 May-Grünwald-Giemsa stained smears. Brief case histories are also given. Authentic samples.  
**Examinations:** Screening and identification of malaria plasmodia and other blood parasites

### Parasites in blood, Giemsa stain, virtual microscopy

**Specimens:** Virtual whole slide images of Giemsa stained smears prepared by using a scanner microscope. Authentic samples.  
**Examinations:** Screening and identification of malaria plasmodia and other blood parasites

### Parasites in blood, May-Grünwald-Giemsa stain, virtual microscopy

**Specimens:** Virtual whole slide images of MGG stained smears prepared by using a scanner microscope. Brief case histories are also given. Authentic samples.  
**Examinations:** Screening and identification of malaria plasmodia and other blood parasites

### Reticulocyte count, automated

**Specimens:** 2 stabilized red cell suspensions, 2–4 mL each  
**Examinations:** Reticulocyte count  
**Analyzer specific product codes:**  
4154: ABX Pentra  
4151: Cell-Dyn 4000, Saphire  
4150: Siemens Advia  
4155: Cell-Dyn 3200, 3500, 3700, Ruby  
4153: Sysmex

### Reticulocyte count, manual methods

**Specimens:** 1 stabilized red blood cell suspension, 2 mL  
**Examinations:** Reticulocyte count
### Haematology » Coagulation

#### 4330 Activated partial thromboplastin time and fibrinogen

- **Specimens:** 2 lyophilized plasma samples, 0.5–1 mL each
- **Examinations:** Coagulation time in seconds, fibrinogen

#### 4387 Anticoagulants: LMW-Heparin/antiFXa

- **Specimens:** 2 lyophilized plasma samples, 0.5–1 mL each
- **Examinations:** LMW-heparin/antiFXA

#### 4391 Anticoagulants: Rivaroxaban

- **Specimens:** 2 lyophilized plasma samples
- **Examinations:** Rivaroxaban concentration

#### 4388 D-dimer

- **Specimens:** 2 pooled plasma samples, 0.5–1 mL each. Pre- and/or post-analytical cases in part of the rounds.
- **Examinations:** D-Dimer, pre- and/or post-analytical indicators
- **Notes:** For clinical laboratories and POCT sites

#### 4339 INR, CoagSense, POCT

- **Specimens:** 1 lyophilized plasma sample
- **Examinations:** Prothrombin time in INR unit
- **Notes:** Only for CoagSense meter

#### 4335 INR, CoaguChek, i-STAT and Siemens Xpresa, POCT

- **Specimens:** 1 lyophilized or liquid plasma sample
- **Examinations:** Prothrombin time in INR unit
- **Notes:** Only for CoaguChek, i-STAT and Siemens Xpresa meters

#### 4337 INR, EuroLyzer, POCT

- **Specimens:** 1 lyophilized plasma sample
- **Examinations:** Prothrombin time in INR unit
- **Notes:** Only for EuroLyzer INR meter

#### 4338 INR, MicroINR, POCT

- **Specimens:** 1 lyophilized plasma sample
- **Examinations:** Prothrombin time in INR unit
- **Notes:** Only for microINR meter
EQA services for **POCT sites**

Patient outcome is associated with obtaining a reliable test result regardless of where the testing is performed. To ensure quality of care and patient safety, it is imperative that point-of-care testing (POCT) is subjected to the same quality requirements as conventional laboratory analyses.

Labquality offers a range of EQA schemes suitable for POCT sites. These services are intended for all testing units including home/community nursing, hospital wards, pediatric clinics, surgical units, occupational healthcare, outpatient clinics and medical centers.

### Clinical chemistry

- 2610 Acid-base status and electrolytes
- 3240 Albumin and creatinine in urine
- 2100 Basic chemistry, POCT analyzers
- 2132 C-reactive protein (CRP), POCT
- 3300 Drug abuse screening in urine
- 2750 Faecal occult blood
- 2570, 2580, 2590 Glucose meters 1, 2 and 3
- 1263 Haemoglobin A1c, liquid samples, POCT
- 2114 Haemoglobin, 1-level, POCT
- 2112 Haemoglobin, 3-level samples, POCT
- 2690 Natriuretic peptides 1, B-type, NT-ProBNP
- 2691 Natriuretic peptides 2, B-type, BNP
- 3270 Pregnancy test
- 2530 Troponin I and Troponin T, detection, POCT
- 3100 Urine, strip test A

### Haematology

- 4388 D-Dimer
- 4339 INR, CoagSense, POCT

### Microbiology

- 5640 EBV mononucleosis, heterophile antibodies
- 5596 *Helicobacter pylori*, antigen detection in faeces
- 5090 HIV, antibodies, POCT
- 5671 Influenza virus A+B, antigen detection
- 5597 Legionella, antigen detection in urine
- 5430 Malaria, antigen and nucleic acid detection
- 4336 POCT INR evaluation scheme
- 4130 White blood cell count: HemoCue, POCT
- 4190 White blood cell differential count: HemoCue, POCT

### Preanalytics

- 7801 Preanalytics, phlebotomy
- 7804 Preanalytics, POCT
This program includes schemes for immunodiagnostic tests such as those for coeliac disease, rheumatoid factor and thyroid gland autoantibodies. All of the schemes involve analysis of liquid human serum or plasma samples. For allergy diagnostics, review the allergology program in the clinical chemistry portfolio.

### 5935 ANCA and GbmAb

**Specimens:** 2 liquid human serum or plasma samples, 0.5 mL each  
**Examinations:** Anti-neutrophilic cytoplasmic Ab, Myeloperoxidase Ab, Proteinase-3 Ab and Glomerular basement membrane Ab  
**Notes:** Quantitative results are also processed (Pr3Ab, MPOAb)

### 5900 Antinuclear antibodies

**Specimens:** 3 liquid human serum or plasma samples, 0.6 mL each  
**Examinations:** ANA, ENAAb, RNPAb, SmAb, SsAAb, SSBAb, Scl70Ab, CentAb, Jo1Ab, DNAnAb (dsDNA), HistAb  
**Notes:** Extractable antinuclear antigens and double-stranded deoxyribonucleic acid are included

### 5938 Autoimmune diagnostics, IFA interpretation

**Specimens:** 3–5 cases (digital images)  
**Examinations:** Interpretation

### 5930 Autoimmune liver disease and gastric parietal cell antibodies

**Specimens:** 2 liquid human serum or plasma samples, 0.4 mL each  
**Examinations:** Liver kidney microsomal antibodies, Smooth muscle antibodies, Mitochondrial antibodies, Gastric parietal cell antibodies

### 5940 Coeliac disease, antibodies

**Specimens:** 2 liquid human serum or plasma samples, 0.7 mL each. Pre- and/or post-analytical cases in part of the rounds.  
**Examinations:** Endomysium antibodies, tissue transglutaminase antibodies, deamidated gliadin peptide antibodies, pre- and/or post-analytical indicators  
**Notes:** Quantitative results are also processed (tTGAbA, tTGAbG, DGPAbA, DGPAbG). Scheme is not suitable for POC tests.

### 5937 Phospholipid antibodies

**Specimens:** 2 liquid human serum or plasma samples, 0.5 mL each  
**Examinations:** Phospholipid antibodies, Cardiolipin antibodies (IgG and IgM), beta-2-glycoprotein antibodies (IgG and IgM).  
**Notes:** Quantitative results are also processed

### 5820 Rheumatoid factor and citrullic peptide antibodies

**Specimens:** 2 liquid human serum or plasma samples, 0.7 mL each  
**Examinations:** Qualitative and quantitative RF, CCPAb
<table>
<thead>
<tr>
<th>Code</th>
<th>Test Description</th>
<th>Specimens:</th>
<th>Examinations:</th>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5920</td>
<td>Thyroid gland antibodies</td>
<td>2 liquid human serum or plasma samples, 0.4 mL each</td>
<td>Thyroglobulin antibodies and thyroid peroxidase antibodies</td>
<td>Quantitative results are also processed</td>
</tr>
<tr>
<td>5913</td>
<td>TSH receptor antibodies</td>
<td>2 liquid human serum samples, 0.4 mL each</td>
<td>Thyroid stimulating hormone receptor antibodies</td>
<td>Quantitative results are also processed</td>
</tr>
</tbody>
</table>
The microbiological EQA programs are suitable for clinical laboratories and POCT sites performing testing in the areas of bacterial serology, bacteriology, mycology, parasitology and virology. While the selection includes schemes for antigen detection, antibody detection, culture, microscopy, and PCR tests, solutions for versatile needs are available. Authentic single donor samples are included in multiple schemes.

### Microbiology » Bacterial Serology

<table>
<thead>
<tr>
<th>Assay Code</th>
<th>Assay Name</th>
<th>Specimens</th>
<th>Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5840</td>
<td>Antistreptolysin</td>
<td>2 liquid human serum or plasma samples, 0.4 mL each. Authentic, commutable, single donor samples.</td>
<td>Qualitative and quantitative ASO</td>
</tr>
<tr>
<td>5950</td>
<td><em>Bordetella pertussis</em>, antibodies</td>
<td>2 liquid human serum samples, ≥ 0.3 mL each</td>
<td><em>B. pertussis</em> IgA, IgG &amp; IgM antibodies, Pertussis toxin IgA, IgG &amp; IgM and clinical interpretation</td>
</tr>
<tr>
<td>5960</td>
<td><em>Borrelia burgdorferi</em>, antibodies, European origin</td>
<td>2 liquid human serum or plasma samples, 0.5 mL each. Authentic, commutable, single donor samples.</td>
<td><em>B. burgdorferi</em> IgG, IgM and total antibodies, clinical interpretation</td>
</tr>
<tr>
<td>5620</td>
<td><em>Chlamydia pneumoniae</em>, antibodies</td>
<td>1 single serum and 1 paired serum samples, 0.4 mL each</td>
<td><em>C. pneumoniae</em> IgA, IgG, IgM antibodies, clinical interpretation</td>
</tr>
<tr>
<td>5860</td>
<td><em>Helicobacter pylori</em>, antibodies</td>
<td>2 liquid human serum or plasma samples, 0.4 mL each</td>
<td><em>H. pylori</em> IgA, IgG and total antibodies, quantitative and qualitative tests, clinical interpretation</td>
</tr>
<tr>
<td>5980</td>
<td><em>Mycoplasma pneumoniae</em>, antibodies</td>
<td>2 liquid human serum or plasma samples, 0.3 mL each. Authentic, commutable, single donor samples.</td>
<td><em>M. pneumoniae</em> IgG, IgM and total antibodies, clinical interpretation Notes: For clinical laboratories and POCT sites</td>
</tr>
<tr>
<td>5880</td>
<td>Syphilis serology</td>
<td>2 liquid human serum samples, 0.6 mL each. Authentic, commutable, single donor samples.</td>
<td>Cardiolipin, <em>Treponema pallidum</em> antibodies and clinical interpretation</td>
</tr>
<tr>
<td>Code</td>
<td>Examination Title</td>
<td>Specimens</td>
<td>Examinations</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>5050</strong></td>
<td>Bacteriological staining, direct</td>
<td>3 cases, 3–9 digital images</td>
<td>Interpretation of digital images taken from direct bacteriological staining of clinical samples</td>
</tr>
<tr>
<td><strong>5100</strong></td>
<td>Blood culture</td>
<td>2 lyophilized samples</td>
<td>Culture, identification, antimicrobial susceptibility</td>
</tr>
<tr>
<td><strong>5101</strong></td>
<td>Blood culture, screening</td>
<td>2 lyophilized samples</td>
<td>Culture, preliminary identification using Gram staining. The scheme is also suitable for stem cell banks screening only for possible growth.</td>
</tr>
<tr>
<td><strong>5150</strong></td>
<td>Cerebrospinal fluid, culture</td>
<td>2 lyophilized samples</td>
<td>Culture and identification. The scheme is also suitable for laboratories performing screening and reporting merely a preliminary identification.</td>
</tr>
<tr>
<td><strong>5612</strong></td>
<td>Chlamydia trachomatis and Neisseria gonorrhoeae nucleic acid detection</td>
<td>3 simulated swab/urine samples</td>
<td>Detection of C. trachomatis and N. gonorrhoeae nucleic acid</td>
</tr>
<tr>
<td><strong>5200</strong></td>
<td>Clostridium difficile, culture and toxin detection</td>
<td>2 lyophilized mixtures of bacteria</td>
<td>This scheme includes C. difficile culture, antigen detection (GDH), toxin detection and direct nucleic acid detection</td>
</tr>
<tr>
<td><strong>5201</strong></td>
<td>Clostridium difficile, nucleic acid detection</td>
<td>2 lyophilized mixtures of bacteria</td>
<td></td>
</tr>
<tr>
<td><strong>5202</strong></td>
<td>Clostridium difficile, extra set of samples</td>
<td>2 lyophilized mixtures of bacteria</td>
<td></td>
</tr>
<tr>
<td><strong>5191</strong></td>
<td>Faecal bacterial pathogens multiplex, nucleic acid detection</td>
<td>2 lyophilized mixtures of bacteria</td>
<td></td>
</tr>
</tbody>
</table>

**Microbiology » Bacteriology**

Subjects:
- Analysis of clinical samples
- Identification and susceptibility testing of microorganisms

Examinations:
- Bacteriological staining
- Blood culture
- Cerebrospinal fluid culture
- Chlamydia trachomatis and Neisseria gonorrhoeae nucleic acid detection
- Clostridium difficile culture and toxin detection
- Faecal bacterial pathogens multiplex detection

Notes:
- Fresh blood is needed but not included in the shipment
- The scheme is also suitable for stem cell banks screening only for possible growth.
### Faecal culture (5190)

**Specimens:** 2 lyophilized mixtures of bacteria

**Examinations:** Culture and direct nucleic acid detection. Pathogens included are *Aeromonas, Campylobacter, Plesiomonas, Salmonella, Shigella* and *Vesinia*, may also include EHEC.

### General Bacteriology 1 (aerobes and anaerobes) (5080)

**Specimens:** 4 lyophilized mixtures of microbes: both pathogens and normal flora. The samples intended for susceptibility testing may include both international quality control strains and susceptible or resistant clinical strains. Brief case histories are also given. Pre- and/or post-analytical cases in part of the rounds.

**Examinations:** Isolation of pathogens and antimicrobial susceptibility testing, pre- and/or post-analytical cases

**Notes:** 5080 includes 5081, General Bacteriology 2

### General Bacteriology 2 (aerobes) (5081)

**Specimens:** 2 lyophilized mixtures of microbes: both pathogens and normal flora. The specimens intended for susceptibility testing may include both international quality control strains and susceptible or resistant clinical strains. Brief case histories are also given. Pre- and/or post-analytical cases in part of the rounds.

**Examinations:** Isolation of pathogens and antimicrobial susceptibility testing, pre- and/or post-analytical cases

**Notes:** 5080 General Bacteriology 1 includes 5081

### Gram stain, blood culture (5041)

**Specimens:** 2–3 air-dried microbe suspensions on slides

**Examinations:** Staining and microscopy

### Gram stain, colonies (5040)

**Specimens:** 3 air-dried, unfixed microbe suspensions on a slide

**Examinations:** Staining and microscopy

### Helicobacter pylori, antigen detection in faeces (5596)

**Specimens:** 3 lyophilized faecal samples

**Examinations:** Antigen detection

**Notes:** For clinical laboratories and POCT sites

### Legionella, antigen detection in urine (5597)

**Specimens:** 3 simulated urine samples

**Examinations:** Legionella antigen detection

### Mycobacterial culture and stain (5220)

**Specimens:** 2 lyophilized samples and 2 fixed smears on slides

**Examinations:** Detection of *Mycobacterium tuberculosis, Mycobacterium tuberculosis* complex and atypical mycobacteria: culture, direct nucleic acid detection, acid-fast staining and microscopy

### Mycobacterial nucleic acid detection and stain (5221)

**Specimens:** 2 lyophilized samples and 2 fixed smears on slides

**Examinations:** Direct nucleic acid detection, acid-fast staining and microscopy

**Notes:** 5220 includes also this examination

### Mycobacterial stain (5240)

**Specimens:** 2 fixed smears on slides

**Examinations:** Acid-fast staining and microscopy
### 5120 Neisseria gonorrhoeae (Gc), culture and susceptibility testing

**Specimens:** 2 lyophilized mixtures of microbes. The samples intended for susceptibility testing may include both international quality control strains and susceptible or resistant clinical strains.

**Examinations:** Culture, identification and antimicrobial susceptibility testing. Also suitable for laboratories performing preliminary screening.

### 5180 Salmonella culture

**Specimens:** 2 lyophilized mixtures of bacteria

**Examinations:** Culture

**Notes:** 5190 also includes 5180

### 5595 Streptococcus group A, antigen detection

**Specimens:** 3 simulated pharyngeal samples

**Examinations:** Antigen detection

**Notes:** For clinical laboratories and POCT sites

### 5593 Streptococcus group A, nucleic acid detection

**Specimens:** 3 simulated pharyngeal samples

**Examinations:** Nucleic acid detection

### 5594 Streptococcus group B (GBS), detection

**Specimens:** 2 lyophilized samples. Samples include pathogens and/or normal flora.

**Examinations:** Culture, direct nucleic acid detection and antigen detection

### 5598 Streptococcus pneumoniae, antigen detection in urine

**Specimens:** 3 simulated urine specimens

**Examinations:** S. pneumoniae antigen detection

### 5073 Surveillance culture for multidrug resistant bacteria, gramnegative rods

**Specimens:** 1 lyophilized mixture of microbes; including pathogens and/or normal flora

**Examinations:** The scheme is intended for laboratories performing screening of multidrug resistant gramnegative rods (e.g. CPE, ESBL, MDR Acinetobacter and P. aeruginosa) by culture and/or direct nucleic acid detection method.

### 5071 Surveillance culture for multidrug resistant bacteria, MRSA

**Specimens:** 1 lyophilized mixture of microbes; including pathogens and/or normal flora

**Examinations:** The scheme is intended for laboratories performing screening of MRSA (methicillin resistant Staphylococcus aureus) by culture and/or direct nucleic acid detection method.

### 5072 Surveillance culture for multidrug resistant bacteria, VRE

**Specimens:** 1 lyophilized mixture of microbes; including pathogens and/or normal flora

**Examinations:** The scheme is intended for laboratories performing screening of VRE (vancomycin-resistant enterococci) by culture and/or direct nucleic acid detection method.

### 5140 Throat streptococcal culture

**Specimens:** 3 lyophilized mixtures of bacteria

**Examinations:** Culture and identification of group A, C and G streptococci
### Microbiology » Parasitology

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Specimens:</th>
<th>Examinations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5470</td>
<td>Parasites in blood, Giemsa stain</td>
<td>2 Giemsa stained smears. Brief case histories also given. Authentic samples.</td>
<td>Screening and identification of malaria plasmodia and other blood parasites</td>
</tr>
<tr>
<td>5471</td>
<td>Parasites in blood, May-Grünwald-Giemsa stain, virtual microscopy</td>
<td>Virtual whole slide images of Giemsa stained smears prepared by using a scanner microscope. Brief case histories also given. Authentic samples.</td>
<td>Screening and identification of malaria plasmodia and other blood parasites</td>
</tr>
<tr>
<td>5065</td>
<td>Urine culture, quantitative screening, identification and susceptibility</td>
<td>2 lyophilized samples and dilutor. Brief case histories also given. The samples intended for susceptibility testing may include both international quality control strains and susceptible or resistant clinical strains. Pre- and/or post-analytical cases in part of the rounds.</td>
<td>Culture, quantitation, identification and antimicrobial susceptibility testing, pre- and/or post-analytical indicators</td>
</tr>
</tbody>
</table>

### Microbiology » Mycology

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Specimens:</th>
<th>Examinations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5260</td>
<td>Fungal culture</td>
<td>3 lyophilized samples</td>
<td>Culture and identification. Antimicrobial susceptibility testing of yeast strains.</td>
</tr>
<tr>
<td>5430</td>
<td>Malaria, antigen and nucleic acid detection</td>
<td>3 whole blood samples</td>
<td>Detection of Giardia lamblia and/or Cryptosporidium nucleic acid.</td>
</tr>
<tr>
<td>5460</td>
<td>Parasites in blood, Giemsa stain</td>
<td>2 Giemsa stained smears. Brief case histories also given. Authentic samples.</td>
<td>Screening and identification of malaria plasmodia and other blood parasites</td>
</tr>
<tr>
<td>5461</td>
<td>Parasites in blood, May-Grünwald-Giemsa stain</td>
<td>2 MGG stained smears. Brief case histories also given. Authentic samples.</td>
<td>Screening and identification of malaria plasmodia and other blood parasites</td>
</tr>
<tr>
<td>5472</td>
<td>Giardia and Cryptosporidium, nucleic acid detection</td>
<td>3 lyophilized samples</td>
<td>Detection of Giardia lamblia and/or Cryptosporidium nucleic acid.</td>
</tr>
</tbody>
</table>

### Microbiology

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Specimens:</th>
<th>Examinations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5060</td>
<td>Urine culture, quantitative screening</td>
<td>3 lyophilized samples</td>
<td>Culture and quantitation, pre- and/or post-analytical indicators</td>
</tr>
<tr>
<td>5160</td>
<td>Yeasts and moulds, culture</td>
<td>3 lyophilized samples</td>
<td>Culture and identification. Antimicrobial susceptibility testing of yeast strains.</td>
</tr>
<tr>
<td>5260</td>
<td>Parasites in blood, May-Grünwald-Giemsa stain</td>
<td>2 lyophilized samples</td>
<td>Culture, identification and antimicrobial susceptibility testing, pre- and/or post-analytical indicators</td>
</tr>
</tbody>
</table>

### Notes

- For clinical laboratories and POCT sites.
<table>
<thead>
<tr>
<th>Code</th>
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<th>Specimens</th>
<th>Examinations</th>
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</thead>
<tbody>
<tr>
<td>5440</td>
<td>Parasites in faeces</td>
<td>3 stool samples in formalin. Brief case histories also given.</td>
<td>Screening and identification of intestinal parasites (ova and parasites)</td>
</tr>
<tr>
<td>5450</td>
<td>Parasites in faeces, virtual microscopy</td>
<td>Virtual whole slide images of stool samples in formalin prepared by using a scanner microscope. Brief case histories also given.</td>
<td>Screening and identification of intestinal parasites (ova and parasites)</td>
</tr>
<tr>
<td>5420</td>
<td>Toxoplasma, antibodies</td>
<td>3 liquid human plasma samples, 0.7 mL each. Brief case histories also given. Authentic commutable samples: Each sample batch originates from a single human donor.</td>
<td>Toxoplasma IgA, IgG, IgM and total antibodies, IgG avidity and clinical interpretation</td>
</tr>
<tr>
<td>5474</td>
<td>Trichomonas vaginalis, antigen detection</td>
<td>3 artificial samples</td>
<td>Detection of Trichomonas vaginalis antigen</td>
</tr>
<tr>
<td>5473</td>
<td>Trichomonas vaginalis, nucleic acid detection</td>
<td>3 lyophilized samples</td>
<td>Detection of Trichomonas vaginalis nucleic acid (NAT)</td>
</tr>
</tbody>
</table>

### Microbiology » Virology

<table>
<thead>
<tr>
<th>Code</th>
<th>Test Description</th>
<th>Specimens</th>
<th>Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5650</td>
<td>Cytomegalovirus, antibodies</td>
<td>3 liquid human plasma samples, ≥ 0.7 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>Cytomegalovirus IgG, IgM and total antibodies, IgG avidity and clinical interpretation</td>
</tr>
<tr>
<td>5635</td>
<td>Dengue virus, antibodies and antigen detection</td>
<td>3 human serum or plasma samples, 0.5 mL each. Authentic, commutable samples from a single human donor or occasionally simulated samples.</td>
<td>Dengue virus IgG and IgM antibodies, Dengue virus antigen (NS1) and clinical interpretation</td>
</tr>
<tr>
<td>5640</td>
<td>EBV mononucleosis, heterophile antibodies</td>
<td>3 liquid human plasma samples, 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>MonAb, heterophile antibodies</td>
</tr>
<tr>
<td>5641</td>
<td>EBV mononucleosis, specific antibodies</td>
<td>3 liquid human plasma samples, 1.4 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>EBNAAb, EBVAb, EBVAbG, EBVAbM, EBVAvi and clinical interpretation.</td>
</tr>
<tr>
<td>5092</td>
<td>Hepatitis A, antibodies</td>
<td>3 liquid human plasma samples, ≥ 0.6 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>HAVAb, HAVAbM, HAVAbG and clinical interpretation</td>
</tr>
<tr>
<td>Scheme</td>
<td>Description</td>
<td>Specimens</td>
<td>Examinations</td>
</tr>
<tr>
<td>--------</td>
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<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5094–5096</td>
<td>Hepatitis B and C, serology, specimen volume 0.6 mL / 1.2 mL / 2.0 mL</td>
<td>3 liquid human plasma samples, 0.6 / 1.2 or 2.0 mL. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>HBsAb, HbcAbM, HBeAb, HBeAg, HBsAb (qual), HBsAg, HCVAb, HCVAbCt and clinical interpretation</td>
</tr>
<tr>
<td>5093</td>
<td>Hepatitis B, s-antigen antibodies, quantitative</td>
<td>2 liquid human plasma or serum samples, ≥ 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>HBsAb (anti-HBs), quantitative</td>
</tr>
<tr>
<td>5679</td>
<td>Hepatitis B virus, nucleic acid detection (DNA)</td>
<td>3 lyophilized or liquid plasma samples, ≥ 1.2 mL each</td>
<td>HBV DNA, quantitative and/or qualitative nucleic acid detection</td>
</tr>
<tr>
<td>5678</td>
<td>Hepatitis C virus, nucleic acid detection (RNA)</td>
<td>3 lyophilized or liquid plasma samples, ≥ 1.2 mL each</td>
<td>HCV RNA, quantitative and/or qualitative nucleic acid detection</td>
</tr>
<tr>
<td>5682</td>
<td>Hepatitis E, antibodies</td>
<td>3 liquid human plasma samples, ≥ 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>Hepatitis E virus IgG and IgM antibodies and clinical interpretation.</td>
</tr>
<tr>
<td>5555</td>
<td>Herpes simplex 1 and 2, antibodies</td>
<td>3 liquid human plasma or serum samples, ≥ 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>HSV IgG (qualitative/quantitative), HSV IgM, HSV-1 IgG, HSV-2 IgG</td>
</tr>
<tr>
<td>5680</td>
<td>HIV-1, nucleic acid detection (RNA)</td>
<td>3 lyophilized or liquid plasma samples, ≥ 1.2 mL each</td>
<td>HIV-1 RNA, quantitative and/or qualitative nucleic acid detection</td>
</tr>
<tr>
<td>5091</td>
<td>HIV, antibodies</td>
<td>4 liquid human plasma samples, ≥ 0.7 mL each</td>
<td>HIVAgAb (combo), HIVAb, HIVAbCt: primary and confirmatory tests, clinical interpretation. Positive specimens may include HIV-1 or HIV-2.</td>
</tr>
<tr>
<td>5090</td>
<td>HIV, antibodies, POCT</td>
<td>3–4 liquid human plasma samples, ≥ 0.5 mL each</td>
<td>HIVAb and HIVAgAb primary tests (POCT)</td>
</tr>
<tr>
<td>Code</td>
<td>Test Description</td>
<td>Specimens</td>
<td>Examinations</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>5086</td>
<td>Human papillomavirus, nucleic acid detection</td>
<td>Simulated samples</td>
<td>High-risk human papillomavirus NAT, hrHPVNAT</td>
</tr>
<tr>
<td>5089</td>
<td>Human T-cell lymphotropic virus, antibodies</td>
<td>3 liquid human plasma samples, ≥ 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>HTLVAb: primary and confirmatory tests. Positive samples may include HTLV-1 or HTLV-2.</td>
</tr>
<tr>
<td>5670</td>
<td>Influenza virus A+B and RS virus, nucleic acid detection</td>
<td>5 artificial samples, 0.5 mL each</td>
<td>InfANAT, InfBNAT, RSVNAT</td>
</tr>
<tr>
<td>5671</td>
<td>Influenza virus A+B, antigen detection</td>
<td>3 artificial samples, 0.5 mL each</td>
<td>InfAAG, InfBAG</td>
</tr>
<tr>
<td>5668</td>
<td>Measles virus, antibodies</td>
<td>3 liquid human plasma samples, 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>Measles virus IgG and IgM antibodies and clinical interpretation</td>
</tr>
<tr>
<td>5669</td>
<td>Mumps virus, antibodies</td>
<td>3 liquid human plasma samples, 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>Mumps virus IgG and IgM antibodies and clinical interpretation</td>
</tr>
<tr>
<td>5675</td>
<td>Norovirus, nucleic acid detection</td>
<td>3 simulated samples, ≥ 0.5 mL each</td>
<td>Norovirus NAT, genogroups GI and GII</td>
</tr>
<tr>
<td>5660</td>
<td>Parvovirus B19, antibodies</td>
<td>3 liquid human plasma or serum samples, ≥ 0.4 mL each. Authentic commutable samples: each batch originates from a single human donor.</td>
<td>Parvovirus IgG, IgM, IgG avidity and clinical interpretation</td>
</tr>
<tr>
<td>5560</td>
<td>Puumala virus, antibodies</td>
<td>3 liquid human plasma or serum samples, ≥ 0.3 mL each. Brief case histories are also provided.</td>
<td>Puumala virus IgG, IgM, POC tests and specific antibodies, IgG avidity and clinical interpretation</td>
</tr>
<tr>
<td>5098</td>
<td>Rotavirus and adenovirus, antigen detection</td>
<td>3 faecal suspensions, 0.5 mL each</td>
<td>Rotavirus and adenovirus antigen detection</td>
</tr>
<tr>
<td>5672</td>
<td>RS virus, antigen detection</td>
<td>3 artificial samples, 0.5 mL each</td>
<td>RSVAg</td>
</tr>
</tbody>
</table>
### Rubella virus, antibodies

**Specimens:** 3 liquid human plasma samples, 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.

**Examinations:** Rubella virus IgG and IgM antibodies, IgG avidity and clinical interpretation

### Tick-borne encephalitis virus, antibodies

**Specimens:** 3 liquid human plasma or serum samples, ≥ 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.

**Examinations:** TBE IgG, IgM, total antibodies and clinical interpretation

**Notes:** For clinical laboratories and POCT sites

### Varicella-zoster virus, antibodies

**Specimens:** 3 liquid human plasma or serum samples, ≥ 0.5 mL each. Authentic commutable samples: each batch originates from a single human donor.

**Examinations:** Varicella zoster IgG, IgM, total antibodies and clinical interpretation

### EQA schemes including Antimicrobial Susceptibility Testing

#### Bacteriology and mycology

- **5100** Blood culture
- **5260** Fungal culture
- **5080** General Bacteriology 1
- **5081** General Bacteriology 2
- **5120 Neisseria gonorrhoeae (Gc), culture and susceptibility testing**
- **5073** Surveillance culture for multidrug resistant bacteria, gramnegative rods
- **5071** Surveillance culture for multidrug resistant bacteria, MRSA
- **5072** Surveillance culture for multidrug resistant bacteria, VRE
- **5065** Urine culture, quantitative screening, identification and susceptibility

### EQA schemes suitable for direct nucleic acid testing methods

#### Bacteriology

- **5612** *Chlamydia trachomatis* and *Neisseria gonorrhoeae* nucleic acid detection
- **5201** *Clostridium difficile*, nucleic acid detection
- **5191** Faecal bacterial pathogens multiplex, nucleic acid detection
- **5221** Mycobacterial nucleic acid detection and stain
- **5593** *Streptococcus* group A, nucleic acid detection
- **5594** *Streptococcus* group B (GBS), detection
- **5071** Surveillance culture for multidrug resistant bacteria, MRSA
- **5072** Surveillance culture for multidrug resistant bacteria, VRE
- **5073** Surveillance culture for multidrug resistant bacteria, gramnegative rods

#### Multiplex

- **5191** Faecal bacterial pathogens multiplex, nucleic acid detection
- **5300** Respiratory infections multiplex, nucleic acid detection
- **5302** Sexually transmitted diseases multiplex, nucleic acid detection

#### Parasitology

- **5472** *Giardia* and *Cryptosporidium*, nucleic acid detection
- **5430** Malaria, antigen and nucleic acid detection
- **5473** *Trichomonas vaginalis*, nucleic acid detection

#### Virology

- **5679** Hepatitis B virus, nucleic acid detection (DNA)
- **5678** Hepatitis C virus, nucleic acid detection (RNA)
- **5680** HIV-1, nucleic acid detection (RNA)
- **5086** Human papillomavirus, nucleic acid detection
- **5670** Influenza virus A+B and RS virus, nucleic acid detection
- **5675** Norovirus, nucleic acid detection
Multiplex EQA schemes are aimed to support laboratories to fulfill quality requirements of multiplex nucleic acid tests. Schemes cover the most common screening methods for respiratory infections, gastrointestinal bacteria and sexually transmitted diseases. All schemes include clinically relevant samples specially designed for multiplex nucleic acid testing. Multiplex schemes are annual programs and during the period of one calendar year, samples will cover listed pathogens.

### 5191 Faecal bacterial pathogens multiplex, nucleic acid detection

**Specimens:** 2 lyophilized mixtures of bacteria
**Examinations:** Direct nucleic acid detection. Pathogens included are *Aeromonas, Campylobacter, Plesiomonas, Salmonella, Shigella* and *Yersinia*, may also include EHEC.

**Notes:** 5190 includes also this examination. Pathogens are covered during annual scheme: participation to all rounds required.

### 5300 Respiratory infections multiplex, nucleic acid detection

**Specimens:** 4 simulated samples, ≥ 0.5mL each
**Examinations:** Direct multiplex nucleic acid detection. Pathogens included are *C. pneumoniae, M. pneumoniae, B. pertussis, B. parapertussis, influenza A/B, RSV A/B, human rhinovirus, enterovirus, parainfluenza, human metapneumovirus, adenovirus* and coronavirus.

**Notes:** Pathogens are covered during annual scheme: participation to all rounds required.

### 5302 Sexually transmitted diseases multiplex, nucleic acid detection

**Specimens:** 4 simulated swab/urine samples
**Examinations:** Direct multiplex nucleic acid detection. Pathogens included are *C. trachomatis, M. genitalium, N. gonorrhoeae, T. vaginalis* and *U. urealyticum*.

**Notes:** Pathogens are covered during annual scheme: participation to all rounds required.

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**Note also our minipanels**

- 5670 Influenza virus A+B and RS virus, nucleic acid detection
- 5472 *Giardia* and *Cryptosporidium*, nucleic acid detection
- 5612 *Chlamydia trachomatis* and *Neisseria gonorrhoeae* nucleic acid detection
Six high quality schemes are available for pathology laboratories. With changing topics of the rounds, both the routine and more advanced needs are covered. The challenges are realistic and include also the less commonly encountered clinically relevant cases. In the cytology and histopathology schemes virtual microscopy is used. With this technology, viewing of several fields of vision and levels of focus are enabled on a computer screen simulating analysis with an optical microscope.

**Pathology » Diagnostics**

### 6700 Gynaecological cytology (smear), virtual microscopy

**Specimens:** Virtual images of at least 5 Papanicolaou stained slides of conventional pap smear samples. The samples are selected from routine cytological material. Diagnostics of cellular atypias in samples taken from gynaecological loci is assessed. Brief case histories and instructions are provided.

**Examinations:** Observations and diagnoses

### 6701 Gynaecological cytology (liquid based), virtual microscopy

**Specimens:** Virtual images of at least 5 Papanicolaou stained slides of liquid based pap samples (ThinPrep). Diagnostics of cellular atypias in samples taken from gynaecological loci is assessed. Brief case histories and instructions are provided.

**Examinations:** Observations and diagnoses

### 6702 Non-gynaecological cytology, virtual microscopy

**Specimens:** Virtual images of Papanicolaou stained slides of non-gynaecological cytosentrifuge or smear preparations or May-Grünwald-Giemsa stained smears. Images of at least 5 cases from representative loci. Brief case histories and instructions are provided.

**Examinations:** Observations and diagnoses

### 6542 Histopathology, virtual microscopy

**Topics in 2018:** Apr: Prostate pathology, Oct: Breast pathology

**Specimens:** Virtual images of at least 5 slides of miscellaneous tissue. Brief case histories and instructions are provided.

**Examinations:** Observations and diagnoses

**Notes:** Topics may vary annually

**Pathology » Technology**

### 6543 Histological staining techniques

**Topics in 2018:** Mar: Iron, Reticulin, Oct: Toluidine blue, Jones (Methenamine)

**Specimens:** Paraffin sections or smears

**Examinations:** Staining of the slides. A set of stained slides is returned to Labquality for evaluation by an expert board.

**Notes:** Stains vary annually

### 6600, 6600S Immunohistochemical staining methods

**Topics in 2018:** Mar: CD1a, CD43, CD45, CD30, CyclinD1 (lymphoma), Sep: ER, PR, Ki-67, HER2, GATA3 (breast cancer), Nov: Synaptophysin (SYP), Chromogranin A (CGA), Melan A (MART-1), CEA, CD117 (unknown tumour, melanoma)

**Specimens:** Paraffin embedded tissue from different tissue blocks or from one multiblock

**Examinations:** Staining of the slides. A set of stained slides is returned to Labquality for evaluation by an expert board.

**Notes:** Changes in frequency, antibodies and sample type. Three rounds with distinct topics available annually. Multiblock samples are now included. Participants can select 3 or 5 antibodies of their choice in each round (6600S for 3 antibodies, 6600 for 5).
The preanalytical schemes provide laboratories and POCT sites with tools for extending quality assurance beyond the commonly assessed analytical phase. As a result of the improved analytical quality, most errors have been suggested to now occur in the preanalytical phase. Managing all phases of the total testing cycle is equally important to ensure patient safety.

Preanalytics

8817 HIL-index [DEKS]
Specimens: 2 serum samples, 2 mL each
Examinations: Selected components are asked to be analysed. The other sample is haemolysed, icteric or lipemic.

7800 Preanalytics, clinical chemistry
Specimens: 3 cases with preanalytical error(s)
Examinations: Laboratories are asked to find preanalytical error(s) in the cases
Notes: The scheme is intended for clinical chemistry laboratories. Scheme is carried out online.

7802 Preanalytics, microbiology
Specimens: 3 cases with preanalytical error(s)
Examinations: Participants are asked to find preanalytical error(s) in the cases
Notes: The scheme is intended for all laboratory staff of clinical microbiology laboratories. Scheme is carried out online.

7801 Preanalytics, phlebotomy
Specimens: 3 cases with preanalytical error(s)
Examinations: Participants are asked to find preanalytical error(s) in the cases
Notes: The scheme is intended for personnel performing blood sample collection (phlebotomy). Scheme is carried out online.

7804 Preanalytics, POCT
Specimens: 3 cases with preanalytical error(s)
Examinations: Participants are asked to find preanalytical error(s) in the cases
Notes: The scheme is intended for personnel using POCT tests and devices. Scheme is carried out online.
## Andrology

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<tr>
<td>6400</td>
<td>semen analysis</td>
<td>3–6 digital videos and/or digital images</td>
<td>Concentration, morphology and motility</td>
<td>Scheme is carried out online</td>
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## Clinical Physiology

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<tr>
<td>7130</td>
<td>ECG, interpretation</td>
<td>6 digital ECG registrations (images)</td>
<td>Technical quality and findings</td>
<td>Scheme is designed for personnel in POCT units as well as nurses and general practitioners. Participants are evaluated on their responses on technical quality, findings or both if given.</td>
</tr>
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</table>

## Genetics

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## Laboratory Instruments

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<tr>
<td>8814</td>
<td>ELISA reader photometry control [DEKS]</td>
<td>An ELISA-plate with built-in gray glass filters</td>
<td>Control for the absorbance scale in ELISA reader</td>
<td>Absorbance traceable to NIST Control of the absorbance scale of ELISA readers</td>
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## Veterinary EQA

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<tr>
<td>8610</td>
<td>Veterinary basic blood count</td>
<td>2 animal blood cell suspensions. Species vary from round to round.</td>
<td>Most common examinations in use</td>
<td></td>
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<thead>
<tr>
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<tbody>
<tr>
<td>8530</td>
<td>Veterinary basic chemistry</td>
<td>2 animal serum samples. Species vary from round to round.</td>
<td>Most common examinations in use</td>
<td></td>
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</tbody>
</table>
Digital External Quality Assessment Program

Labquality’s digital EQA product line provides an advanced approach to external quality assessment. Digital programs use digital images, videos, virtual microscopy technology and questionnaires as EQA samples. It has many advantages. Samples have no stability issues and no shipping costs. All participants get to evaluate the same sample at the same time all over the world. There are no logistical limitations to participate. Only an Internet connection and an appropriate screen are needed.
**Available globally**
**No shipping costs**
**No stability or homogeneity issues**

## Digital EQA programs

### Anatomic pathology
Histopathology and cytology digital schemes use virtual microscopy technology (digital pathology).
- Clinical cytology diagnostics
- Gynecological cytology diagnostics
- Histopathology diagnostics

### Clinical chemistry and haematology
Visual evaluation of cell morphology or motility of sperm cells uses digital images, digital video and virtual microscopy technology as sample material. Several cases are provided in every round.
- Blood grouping, gel cards, evaluation
- Down's syndrome screening, data analysis (LifeCycle, Prisca)
- Leucocyte differential count and evaluation of blood cell morphology
- Nasal swab cells identification
- Semen analysis
- Sputum cells identification
- Urine, identification of cells and other particles

### Immunology and microbiology
Interpretation and evaluation of IFA and gram stain is made from high quality digital images.
- Autoimmune diagnostics, IFA interpretation
- Bacteriological staining, direct, evaluation
- Parasites in blood, identification
- Parasites in faeces, identification

### Preanalytics
Preanalytical phase of laboratory investigations is evaluated from written cases or digital images on Labquality’s website. Participants are asked to evaluate possible preanalytical errors from the cases.
- Preanalytics, clinical chemistry
- Preanalytics, microbiology
- Preanalytics, phlebotomy
- Preanalytics, point-of-care

### Clinical physiology
Clinical physiology scheme uses digital images of ECG registration.
- ECG, interpretation
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Themes: The Path to Perfect Quality & New Frontiers in Health and Laboratory Technology

More information at www.labqualitydays.com