



**Kit RAL 555**  
FAST STAINING KITReference : 361550-0000  
361555-0000**Principle:**

RAL 555 kit is a fast-acting variation of May-Grünwald Giemsa staining. In an aqueous buffered medium, this kit enables:

- A differential staining of blood smears (differential blood cell counting, morphological study of leukocytes, study of parasites) and medullary smears (myelograms)
- The detection of tissular and blood parasites in medical and in veterinary mycology
- The cytological and structural study of fixed and paraffin embedded tissue sections as well as fluids and punctures
- The cytological study of urines, spinal and other fluids

The analysis of smears is identical to the one carried out with standard MGG staining.

**Kit description:** (3 X 100 ml or 3 x 500 ml)

Bottle ① : FIX-RAL 555	100 ml or 500 ml
Bottle ② : EOSINE-RAL 555	100 ml or 500 ml
Bottle ③ : BLEU-RAL 555	100 ml or 500 ml

Number of tests possible: 100 to 200 slides

**Use:**

For professional use only.  
For in-vitro diagnostic use.  
The collection and processing of chemical and biological waste must be conducted by specialized and registered companies  
Storage Temperature: 15-25°C away from light.  
Shelf-Life after Opening: 2 months (see notes)

**Specimen preparation:**

Specimen must be treated in accordance with procedures available in the laboratory and promulgated by national authorities.

**Recommendations and/or notes of use:**

The 3 bottles must be stored away from light.  
(Bottle ① contains Methanol which is very hygroscopic, and thus it must therefore be regularly refilled, namely in countries having high humidity). The oxidation level of BLEU-RAL 555 is standardised during manufacture. This level varies over time and in transferring small quantities of eosin from bottle to bottle. It is essential to drain off excess solution ② before dipping the slide into solution ③.  
The colour of solution ③ may appear more or less dark, but the staining results are not affected either way.  
Solution ③ remains stable for 2 months after opening.

**Staining procedures:**

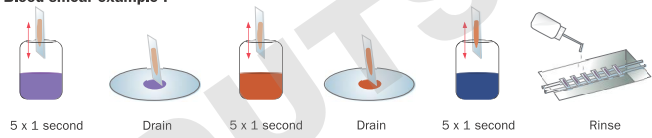
<b>Haematology: Blood Smears</b> <b>Length of one Test : 15 seconds</b> <ul style="list-style-type: none"> <li>Dip the slide 5 x 1 second in solution FIX-RAL 555 (bottle ①).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 5 x 1 second in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 5 x 1 second in solution BLEU-RAL 555 (bottle ③).</li> <li>Rinse the slide with distilled water.</li> </ul>	<b>Haematology: Bone marrow</b> <b>Length of one Test : 3 min</b> <ul style="list-style-type: none"> <li>Dip the slide 1 minute in solution FIX-RAL 555 (bottle ①).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 1 minute in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 1 minute in solution BLEU-RAL 555 (bottle ③).</li> <li>Drain surplus solution onto filter paper.</li> <li>Rinse the slide with distilled water.</li> </ul>
<b>Cyto: Spermocytograms</b> <b>Length of one Test : 1 minute and 20 seconds</b> <ul style="list-style-type: none"> <li>Dip the slide 1 minute in solution FIX-RAL 555 (bottle ①).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 25 seconds in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain the excess solution onto filter paper.</li> <li>Dip the slide 25 seconds in solution BLEU-RAL 555 (bottle ③).</li> <li>Rinse the slide with distilled water.</li> </ul>	<b>Cyto-bacteriology: cytology of biological fluids, urines, cytopunctures and CSF</b> <b>Length of one Test : 15 seconds</b> (1 minute 4 seconds for CSF) <ul style="list-style-type: none"> <li>Dip the slide 5 seconds (1 minute for CSF) in solution FIX-RAL 555 (bottle ①).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 5 seconds (2x1 second for CSF) in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto filter paper.</li> <li>Dip the slide 5 seconds (2x1 second for CSF) in solution BLEU-RAL 555 (bottle ③).</li> <li>Rinse the slide with distilled water</li> </ul>
<b>Cytology of fixed and paraffined tissue sections</b> <b>Length of one Test : 13 sec</b> <ul style="list-style-type: none"> <li>Dewax and hydrate the section</li> <li>Dip the slide 5 seconds in solution EOSINE-RAL 555 (bottle ②)</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 7 seconds in solution BLEU-RAL 555 (bottle ③).</li> <li>Briefly rinse a few seconds</li> <li>Shake the slide in 90° Ethanol for 1 to 2 seconds until it gets the wished tint</li> <li>Stop the differentiation dipping the slide in Iso-propanol</li> <li>Mount the slide with Toluene or Xylene based mounting medium.</li> </ul>	<b>Cytology of punctions (breast and deep organs), effusion liquids of the serous membrane (pleura, peritoneum ...)</b> <b>Length of one Test : 15 sec</b> <ul style="list-style-type: none"> <li>Make a smear</li> <li>Dip the slide 5 seconds in solution FIX-RAL 555 (bottle ①).</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 5 seconds in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 5 seconds in solution BLEU-RAL 555 (bottle ③).</li> <li>Drain surplus solution onto absorbent paper</li> <li>Quickly rinse the slide with distilled water</li> </ul>
<b>Parasitology : Plasmodium (Thick Blood Smears)</b> <b>Length of one Test : 7 sec</b> <ul style="list-style-type: none"> <li>Dip the slide 1 second in solution FIX-RAL 555</li> </ul>	<b>Parasitology : Plasmodium (Blood Films)</b> <b>Length of one Test : 1 minute and 4 sec</b> <ul style="list-style-type: none"> <li>Dip the slide 1 min in solution FIX-RAL 555</li> </ul>

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Protocol N°2; 26; 42bis; 75; 97; 98



<b>Veterinary Parasitology (Piroplasmosis, M. pachedermatis)</b> <b>Length of one Test : 15 sec</b> <ul style="list-style-type: none"> <li>Dip the slide 5 x 1 second in solution FIX-RAL 555 (bottle ①)</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 5 x 1 second in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 5 x 1 second in solution BLEU-RAL 555 (bottle ③).</li> <li>Quickly rinse the slide with distilled water</li> </ul>	<b>Trichomonas</b> <b>Length of one Test : 2 minutes and 15 sec</b> <ul style="list-style-type: none"> <li>Dip the slide 15 seconds in solution FIX-RAL 555 (bottle ①)</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 1 minute in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 1 minute in solution BLEU-RAL 555 (bottle ③).</li> <li>Quickly rinse the slide with distilled water</li> </ul>
<b>Microfilaria</b> <b>Length of one Test : 30 to 40 sec</b> <ul style="list-style-type: none"> <li>Dip the slide 10 x 1 second in solution FIX-RAL 555 (bottle ①)</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 10 x 1 second in solution EOSINE-RAL 555 (bottle ②).</li> <li>Drain surplus solution onto absorbent paper</li> <li>Dip the slide 10 to 20 x 1 second in solution BLEU-RAL 555 (bottle ③).</li> <li>Quickly rinse the slide with distilled water</li> </ul>	<b>Histology : Detection of Helicobacter pylori</b> <ul style="list-style-type: none"> <li>Dewax and hydrate the section</li> <li>Dip and shake the slide for 7 seconds in solution EOSINE-RAL 555 (bottle ②).</li> <li>Dip and shake the slide for 5 seconds in solution BLEU-RAL 555 (bottle ③).</li> <li>Rinse with tap water and dry the slide onto filter paper</li> <li>Dip and shake the slide for 10 seconds in 90° Alcohol</li> <li>Stop the differentiation dipping the slide in Absolute Alcohol</li> <li>Dip the slides in 2 baths of Xylene or Toluene</li> <li>Mount the slide with Toluene or Xylene based mounting medium</li> </ul>

**Blood smear example :****Results:****Blood smear**

<b>Nuclei:</b>	Chromatin:	± dense purple
<b>Leukocytes:</b>	Cytoplasm without RNA:	light pinkish
	Eosinophilic Granulations:	orange-brown
	Basophilic Granulations:	dark purple blue
	Neutrophilic Granulations:	± intense purple
<b>Lymphocytes:</b>	Cytoplasm with RNA:	pure blue
	Cytoplasm without RNA:	light blue
<b>Monocytes:</b>	Azurophilic Granulations:	red
<b>Erythrocytes:</b>	Cytoplasm:	grey-blue
<b>Platelets:</b>	Chromomere:	light red
	Hyalomere:	purple-red
<b>Blood parasites:</b>	<b>Nuclei:</b>	bluish
(plasmodium)	<b>Cytoplasm:</b>	red
		blue

**Spermocytograms**

<b>Head: Nucleus:</b>	Violet
<b>Acrosome:</b>	Pink
<b>Flagellum (Tail): Principal piece:</b>	Light pink
<b>End piece:</b>	Light pink
<b>Midpiece:</b>	Purplish pink

**Assess in Percentage:**

- abnormalities of the head, midpiece and flagellum
- agglutinates
- leucocytes, erythrocytes, cells

If observed results vary from expected results please contact RAL DIAGNOSTICS technical service for assistance.

**Parasitology and Mycology**

Cytoplasms of host, fungic or parasitic eucaryot cells : blue more or less dark, depending on the ribosomal richness.

Nuclei : purple red

**Helicobacter pylori on histological sections**

<b>Helicobacter pylori:</b>	Dark Blue
<b>Nuclei:</b>	Blue
<b>Cytoplasms:</b>	Pink to red
<b>Collagen:</b>	Very pale pink

**Histo-Cyto**

<b>Nuclei:</b>	Red violet
<b>Cytoplasms</b>	
<b>Acidophilic:</b>	Pink
<b>Basophilic:</b>	Blue

Eosin RAL 555 - 361640-0100  
361640-0500

FR: Attention. H317 Peut provoquer une allergie cutanée. P303+P361+P531  
 EN: Warning. H317 May cause an allergic skin reaction. P333+P413  
 DE: Achtung. H317 Kann allergische Hautreaktionen verursachen. P333+P413  
 ES: Atención. H317 Puede provocar una reacción alérgica en la piel. P333+P413  
 IT: Attenzione. H317 Può provocare una reazione allergica cutanea. P333+P413  
 PT: Atenção. H317 Pode provocar uma reacção alérgica cutânea. P333+P413  
 AR: انتباه. H317 قد يسبب حساسية الجلد. P333+P413  
 BG: внимание. H317 Може да причини алергична кожна реакция. P333+P413  
 CS: Pozor. H317 Může vyvolat alergickou kožní reakci. P333+P413  
 DA: Opmærksomhed. H317 Kan forårsage allergisk hudreaktion. P333+P413  
 EL: Προσοχή. H317 Μπορεί να προκαλέσει αλλεργική δερματική αντίδραση. P333+P413  
 ET: Tähelepanu. H317 Võib põhjustada allergilist nahareaktsiooni. P333+P413  
 FI: Huomio. H317 Voi aiheuttaa allergisen ihoreaktion. P333+P413  
 HR: Pažnja. H317 Može izazvati alergijsku reakciju na koži. P333+P413  
 HU: Figyelem. H317 Allergiás bőrréakciót válthat ki. P333+P413  
 JA: 注意. H317 アレルギー性皮膚反応を起こすおそれ。P333+P413  
 KO: 주의. H317 알레르기성 피부 반응을 일으킬 수 있음. P333+P413  
 LT: Dėmesio. H317 Gali sukelti alerginę odos reakciją. P333+P413  
 LV: Uzmanību. H317 Var izraisīt alerģisku ādas reakciju. P333+P413  
 NL: Attention. H317 Kan een allergische huidreactie veroorzaken. P333+P413  
 NO: Attention. H317 Kan utløse en allergisk hudreaksjon. P333+P413  
 PL: Uwaga. H317 Może powodować reakcję alergiczną skóry. P333+P413  
 RO: Atenție. H317 Poate provoca o reacție alergică a pielii. P333+P413  
 RU: внимание. H317 Может вызывать аллергическую кожную реакцию. P333+P413  
 SK: Pozornost! H317 Môže vyvolať alergickú kožnú reakciu. P333+P413  
 SL: Pozor. H317 Lahko povzroči alergijski odziv kože. P333+P413  
 SR: Пажања. H317 Може да изазове алергијске реакције на кожи. P333+P413  
 SV: Var uppmärksam. H317 Kan orsaka allergisk hudreaktion. P333+P413  
 TR: Dikkat. H317 Alerjik cilt reaksiyonlarına yol açar. P333+P413  
 UK: Увага. H317 Може викликати алергічну реакцію на шкілі. P333+P413  
 ZH: 注意. H317 可能导致皮肤过敏反应。P333+P313 如发生皮

Blue RAL 555 - 361650-0100  
361650-0500Fix RAL 555 - 362870-0100  
362870-0500

FR: Danger. H225 Liquide et vapeurs très inflammables. H314 Provoque des  
 effets graves pour les organes. P202 Ne pas manipuler sans protection  
 étanche. P281 Utiliser l'équipement de protection individuel n'empêchant  
 une position où elle peut confortablement respirer. P309+P311  
 EN: Danger. H225 Highly flammable liquid and vapour. H314 Causes  
 P202 Do not handle until all safety precautions have been read and  
 understood. P304+P340 IF INHALED: remove victim to fresh air and keep  
 them calm. Call a doctor if you feel unwell. P309+P311 IF INHALED: move  
 victim to fresh air and keep them calm. Call a doctor if you feel unwell.  
 CENTER or doctor/physician.  
 DE: Gefahr. H225 Flüssigkeit und Dampf leicht entzündbar. H314 Verursacht  
 Organe. P202 Vor Gebrauch alle Sicherheitshinweise lesen und verstehen.  
 P304+P340 BEI EINATMEN: An die frische Luft bringen. P309+P311  
 Unwohlsein: GIFTINFORMATIONSZENTRUM oder Arzt anrufen.  
 ES: Peligro. H225 Líquido y vapores muy inflamables. H314 Provoca daños en los  
 órganos. P202 No manipular la sustancia hasta haber leído y entendido  
 todas las precauciones de seguridad. P309+P311 Si se inhala: mover a la víctima  
 al aire fresco y mantenerla tranquila. Llamar al médico si se siente mal.