V02

鞭毛染色液（石炭酸复红法）

货号：G1137
规格：100mL
保存：室温，避光保存，有效期 1 年。

产品组成：

名称	100mL	保存
试剂（A）：鞭毛染色液 A	90mL	室温，避光
试剂（B）：鞭毛染色液 B	10mL	室温，避光
使用前按照 A:B=9:1 的比例混合即为工作液，现配现用。		

产品介绍：

细菌鞭毛为细菌的运动器官，主要成分是蛋白质。其形态细长，直径约 10-20nm，需用电子显微镜才能观察到。所以鞭毛染色时经媒染剂处理，使鞭毛增粗再进行染色，则可在普通光学显微镜下观察。

操作步骤：（*仅供参考*）

取鞭毛染色液 A 液 9 份和 B 液 1 份混合配成工作液，现用现配，建议过滤后使用。

(1) 细菌标本制备：变形杆菌接种于琼脂平板，37℃培养 18-24h，仔细从菌膜迁徙生长的边缘处挑取菌体少许，轻轻放入无菌蒸馏水试管中，使其自行分散，再 37℃放置约 10min。

(2) 涂片：用接种环取上述菌液，轻轻滴于载玻片上，使成薄膜。涂抹时接种环随水滴移动，切勿与玻片相磨，以免鞭毛脱落。

(3) 染色：涂片自然干燥(勿用火焰固定)后，滴加鞭毛染色液数滴覆盖菌膜，染色 5-10min，水洗、吸干、镜检。

染色结果：

鞭毛	淡红色
菌体	红色

注意事项：

1. 避免菌液浓度过高，否则鞭毛交叉粘连，菌体量过多，不能充分着色，不利于观察。
2. 本染色法为沉淀吸附型，工作液会随时间推移逐渐浑浊，染色须注意染色时间避免过度沉淀影响观察。
3. 菌悬液 37℃处理时间过长会导致菌体鞭毛膨胀过大与脱落，处理时间过短，鞭毛纤细不易着色。
4. 若染色过浅可适当延长染色时间。

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Flagella Stain Kit(Carbol Fuchsin Method)

Cat: G1137
Size: 100mL
Storage: RT, avoid light, valid for 1 year.

Kit Component

Reagent	100mL	Storage
Reagent(A): Flagella Stain Solution A	90mL	RT, avoid light
Reagent(B): Flagella Stain Solution B	10mL	RT, avoid light
Mix Solution A and Solution B with the ratio of 9:1 to form Working Solution before use.		

Introduction

Bacterial flagellum is the motor organ of bacteria, and its main component is protein. Its morphology is slender and its diameter is about 10-20 nm，which need electron microscope to observe. Therefore, the first step of flagellum dyeing is treating with mordant to make flagellum thicker before dyeing, which can make the dyeing result observed under optical microscope.

Protocol(*for reference only*)

Mix Solution A and Solution B with the ratio of 9:1 to form Working Solution before use.
Note:It is recommended to use after filtering.

1. Bacterial specimen preparation:Inoculate the Bacillus proteus on agar plate and incubated at 37℃ for 18-24h. Carefully select a few bacteria from the edge of the membrane migration and growth, gently put them into the sterile distilled water test tube, make them disperse by themselves, and then place them at 37℃ for about 10 min.
2. Smear:Take the above bacterial solution by inoculation ring and drop gently on the slide to form a film. When smearing, the inoculation ring moves with the water droplets. Do not grind with the slide to avoid flagella falling off.
3. Dye: After natural drying of the smear (not fixed by flame), add a few drops of flagellum dyeing solution to cover the bacterial film. Dyeing the smear for 5-10 min,then washing,drying and viewing under microscope.

Result

Flagellum	Light Red
Thalli	Red

Note

1. Avoid excessive concentration of bacterial solution, otherwise the flagellum is cross-adherent, which is not conducive to observation.
2. This staining method is precipitation adsorption type, and the working solution will gradually become turbid over time. Pay attention to the dyeing time to avoid excessive precipitation affecting observation.
3. Too long treatment time at 37℃ of bacterial suspension will cause the flagellum to swell and fall off too much, otherwise the flagellum is slender and not easy to stain if the treatment time too short.
4. If the dyeing is too shallow, the dyeing time can be prolonged appropriately.