**flagella stain**

 Flagella Stain is recommended for use in detecting the presence and arrangement of flagella on the bacterial .

***Structure and composition****:*

The flagella filament is the long,The basal body has several traits in common with some types of [secretory pores](https://en.wikipedia.org/wiki/Secretion#Secretion_in_Gram_negative_bacteria)

####  Different species of bacteria have different numbers and arrangements of flagella.

* Monotrichous bacteria have a single flagellum (e.g., [*Vibrio cholerae*](https://en.wikipedia.org/wiki/Vibrio_cholerae)).
* Lophotrichous bacteria have multiple flagella located at the same spot on the bacterial surfaces which act in concert to drive the bacteria in a single direction. In many cases, the bases of multiple flagella are surrounded by a specialized region of the cell membrane, called the [polar organelle](https://en.wikipedia.org/wiki/Polar_organelle)
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* Amphitrichous bacteria have a single flagellum on each of two opposite ends (only one flagellum operates at a time, allowing the bacterium to reverse course rapidly by switching which flagellum is active
* Peritrichous bacteria have flagella projecting in all direction

***Requirement***

1. Flagellated cell culture slant.
2. Leifson’s stain.1 % Methylene blue.
3. Distilled water.

***Procedure***

* First of all take two hours old flagellated cell culture slant and add **two to three drops** of sterile distill water i n the slant with the help of sterile pipette.
* Note that the distill water is added slowly without disturbing the growth of cells.
* After addition of distill water incubated the slant for **20** **minutes.**
* Then take a drop of suspension from the slant and place the drop on a clean slide which is kept in slanting position.
* The drop should flow slowly from one end of slide to other end to avoid folding of flagella on cell.
* Allow smear to air dry here we don’t use heat fixation treatment .
* After air drying the slide is flooded with **Leifson’s stain** till a thin film of shinny surface appear.
* After this give a gentle stream of water wash treatment to a slide.
* Now treat the slide with **1 % methylene blue** treatment for **1 minute.**
* Give the slide water wash treatment ,air dry and observe under oil immersion lens

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