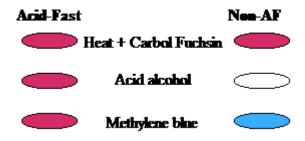
5/26/2018 Acid Fast Stain

Acid Fast Stain

Purpose: The acid-fast stain is a **differential stain** which distinguishes organisms with waxy cell walls that can resist decolorization with acid alcohol.

How it works: Acid-fast bacteria have a waxy substance called mycolic acid in their cell walls which makes them impermeable to many staining procedures, including the Gram stain. These bacteria are termed "acid-fast" because they are able to resist decolorization with acid alcohol. Carbol fuchsin is the primary stain in this procedure, and it contains phenol to help solubilize the cell wall. Heat is also applied during the primary stain to increase stain penetration. All cell types will take up the primary stain. The cells are then decolorized with acid-alcohol, which decolorizes all cells except the acid-fast ones. Methylene blue is then applied to counterstain any cells which have been decolorized. At the end of the staining process, acid-fast cells will be reddish-pink, and non-acid fast cells will be blue. (Note: Acid-fast stains are performed on smears that have been heat-fixed.)

Overview of acid-fast staining process:



Results:

