

Hair Impressions

Introduction:

Mammalian hairs can be distinguished based on a number of different characteristics. When identifying hair all of the following should be considered: color, color pattern, length, thickness, and structure. Hair consists of three layers: the outside layer - the cuticula (or **cuticle**), the middle layer - the **cortex**, and the center of the hair - the **medulla**. There are a wide variety of cuticular scale and medulla patterns that allow the source species to be identified.

Procedure for scale and medulla impressions:

1. Using clear nail polish make a streak, almost as long as the slide, in the middle of the microscope slide. Make sure there is enough polish on the slide.
2. Let sit until almost dry.
GOAL: you want the nail polish to be wet enough that the hair will make an impression, but not so wet that it covers the hair when you set it down. The polish needs to be tacky.
3. Carefully, using the forceps and wooden stick or hand, lay hair across surface of nail polish. It may need to be tapped down into the nail polish a little – Don't push too hard.
4. Set slide aside to dry for a few minutes.
5. Once dry carefully pull hair out of nail polish by pulling straight up. This will be your scale impression. ,
6. Now place a new streak of nail polish on the slide above (or below if there is not enough room) the first streak and put the hair in this new streak. You do not have to wait for the second streak of nail polish to dry. This way the hair is kept with the correct slide.
7. Once the new streak, with the embedded hair, is dry, put the slide on microscope stage and examine. **DO NOT USE THE OIL IMMERSION LENS WITH THIS PROCEDURE!**
8. If you can't see the medulla it may help to run another streak of nail polish over the hair itself. The top streak will soak through the hair and may make the medulla more visible.