

A Guide to Color: Part I Tobiano and Sabino By Kelsy Kempton

There are two pinto patterns seen in Drum horses. Tobiano, which is inherited through the gypsy bloodlines, and sabino, which can be inherited from any of the three foundation breeds. Tobiano and sabino have very different visual appearances and are easy to identify if you know what characteristics to look for. However, both patterns can appear on the same horse, which can make distinction a bit more difficult. So how can you tell if your horse is tobiano, sabino, or a mixture of both? Knowing the visual characteristics and the basic genetics of each pattern will give you a pretty accurate idea of your horse's color.

Tobiano is the most common pinto pattern. Tobianos typically have white legs and colored heads with some sort of facial marking. The white patches on tobianos have a vertical orientation with sharp, clean edges and usually cross the topline. The amount of white can vary from minimal, usually seen as white legs and perhaps one white body spot, to maximal, which is commonly known as a "medicine hat" with white covering a majority of the body except for the ears and possibly the chest. The tobiano pattern is dominant, meaning that only one copy of the gene is needed for expression of the tobiano pattern. There is no definitive visual difference between homozygotes and heterozygotes,

but it has been documented that "ink spots," which are smaller colored spots within areas of white, are more commonly seen on homozygous individuals than heterozygous. The only way to know for sure if your horse is homozygous or heterozygous is to get a genetic test.

The sabino pattern is a bit more difficult to identify in some forms, and is far more difficult to understand genetically.

Sabinos have white markings that progress from the legs up, rarely crossing the top line. They typically have white legs and large white facial markings. Belly spots are common as well. The edges of the white patches are irregular and some degree of roaning may also be seen. The amount of white is incredibly variable, which makes can make some sabinos difficult to identify. Some may be limited to white stockings and a blaze and can be mistaken as solid, but if the edges of the white stockings are irregular, the horse is likely sabino. Other sabino horses are entirely white and mistaken as genetic white. There is 0% incidence of genetic white in the foundation breeds, so if your drum is white, they are most likely sabino. The genetic cause of sabino is not yet fully known. What we do know is that sabino is polygenic, meaning that there is more than one gene controlling the

sabino coat color. One variation of sabino is caused by the Sabino-1 gene. This variation is an incomplete dominant, meaning that heterozygotes have typical sabino markings and homozygotes are completely or nearly completely white. This is the only variation of sabino that has a genetic test at this time. Since we do not yet know or have tests for all the different genes that cause sabino coloring, there is no way to be 100% sure if your horse is sabino.

Horses can express both tobiano and sabino at the same time. We classify horses carrying both of these patterns together as tobiano, since they more closely resemble tobianos with their large white patches that typically cross the topline. The easiest way to determine if your tobiano is also sabino is to look at the edges of the white patches. Tobianos have sharp, clean edges; a tobiano that also carries sabino will have irregular edges. They also tend to have larger white facial markings and some degree of roaning. Remember that all pinto genes are incredibly variable and your horse may not have all the visual identifiers of the genes they possess.

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