The Selenium Distribution In Velvet Antler Of Sika Deer

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Velvet antler of sika deer is a traditional Chinese Medicine (TCM), which has been used for thousand years. Selenium is an essential trace mineral in human and animals that is important for many biology processes [1]. Both velvet antler and selenium have been reported to protect against cancer, virus, oxidative damage, immunodeficiency and several other diseases. Therefore, selenium might be one of active factors in velvet antler of sika deer. Herein, we developed a selenium measurement method by ICP-MS (inductively coupled plasma mass spectrometry) with a detection limit of ppm. Selenium amounts in different regions of velvet antler were measured. The selenium amounts in wax slices, powders slices and bone slices of velvet antler of sika deer were 0.750 ppm, 0.300 ppm and 0.244 ppm, respectively. The selenium amount in wax slices in reindeer was also measured and it was 0.594 ppm, which is less than that of sika deer (0.750 ppm). It should be noted that wax slices are from the growth region at the tip of the antler, where neuron and blood vessel grow extremely fast. Wax slices had the highest concentration of selenium in velvet antler, which indicates that selenium may play a key functional role in antler growth. Based on our unpublished genome of sika deer, we screened the selenium enrich gene and predicted the selenium proteins in antler. These results will help to clarify the role of selenium in velvet antler of sika deer and its TCM use.

References