

## LOCALISATION OF OESTRADIOL RECEPTORS IN ANTLER TISSUE

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Previously (1) we have reported the presence of oestradiol receptors (ER) in antlers of red deer but no distinction was made between the different tissues within the antler. This study was carried out to localise the distribution of ER in antlers. Partially grown antlers (n=12) were removed from red deer (*Cervus elaphus*) stags and the skin was peeled off. Tissue samples were taken as follows: tip (containing undifferentiated mesenchymal tissue and cartilage), periosteum from the shaft, cartilage (including some perichondrium), calcified cartilage, bone. Binding capacity and affinity (Ka) of ER were measured by a dextran coated charcoal assay and results were calculated from Scatchard plots. Any plot with a correlation coefficient less than 0.8 was excluded from the data for statistical analysis.

Binding capacity and affinity of ER in antler tissue. Means in columns with different superscripts are significantly different (p<0.05).

|                     | capacity (fmol/mg protein) |                     |        | affinity (x 10 <sup>10</sup> /M) |        |
|---------------------|----------------------------|---------------------|--------|----------------------------------|--------|
|                     | n                          | mean                | s.e.m. | mean                             | s.e.m. |
| tip                 | 7                          | 46.75 <sup>ab</sup> | 10.33  | 2.41 <sup>ab</sup>               | 0.39   |
| periosteum          | 10                         | 73.34 <sup>a</sup>  | 17.40  | 1.31 <sup>a</sup>                | 0.34   |
| cartilage           | 6                          | 22.87 <sup>b</sup>  | 11.05  | 3.38 <sup>b</sup>                | 0.50   |
| calcified cartilage | 5                          | 12.41 <sup>bc</sup> | 2.01   | 3.33 <sup>b</sup>                | 0.95   |

ER were detectable in all the antler tissues except for bone (see Table). These results indicate that some of the regional differences in occurrence of ER in antlers described earlier (1) are due to differences between tissues within the antler. The presence of ER in non-calcified tissues is interesting because this may indicate an indirect action of oestradiol on mineralisation of antler bone rather than a direct effect on the bone cells.

1. Barrell, G.K., Lengoc, C.M. & Muir P.D. (1986). Proc. Endocr. Soc. Aust. 29: E21.

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