

APPENDIX 11.1

Chapter 11 - New insights on the identity of a seventh century horse rider. The case of grave 104 bis from Târgșor,

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Normalised $\delta^{13}\text{C}$ ‰VPDB Mean = -10.7; Normalised $\delta^{18}\text{O}$ ‰VPDB Mean = -7.59;

- applying function **$\delta^{18}\text{O}_{\text{carb}} (\text{V-SMOW}) = (1.03091 * \delta^{18}\text{O}_{\text{VPDB}}) + 30.91$** according to Coplen TB, Kendall C, Hopple J. Comparison of stable isotope reference samples. *Nature*. 1983;302:236-8. doi: 10.1016/0375-6505(95)00024-0.
- applying function **$\delta^{18}\text{O}_{\text{phos}} (\text{V-SMOW}) = (1.0322 * \delta^{18}\text{O}_{\text{carb}}) - 9.6849$** according to Chenery CA, Pashley V, Lamb AL, Sloane HJ, Evans JA. The oxygen isotope relationship between the phosphate and structural carbonate fractions of human bioapatite. *Rapid Communications in Mass Spectrometry*. 2012;26(3):309-19. doi: 10.1002/rcm.5331.
- applying function to **$\delta^{18}\text{O}_{\text{Drinking water}} = 1.590 \times \delta^{18}\text{O}_{\text{VSMOW}(\text{carbonate})} - 48.634$** according to Chenery CA, Pashley V, Lamb AL, Sloane HJ, Evans JA. The oxygen isotope relationship between the phosphate and structural carbonate fractions of human bioapatite. *Rapid Commun Mass Spectrom*. 2012; 26: 309–319.

Results:

- $\delta^{18}\text{O}_{\text{carb}} = 23.08$
- $\delta^{18}\text{O}_{\text{phos}} = 14.14$
- $= \delta^{18}\text{DW} = - 11.93$