

Discussion

New assay method for the determination of vinpocetine in human plasma by gas chromatography–mass spectrometry without transesterification caused by solvents

Reply to Hammes and Weyhenmeyer

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With reference to the comments of Hammes and Weyhenmeyer [1] of 18th December 1990, we would like to take them up on their statements:

(1) The method described by Polgár and Vereczkey [2] is not sensitive enough because the limit of detection is only 1 ng/ml, and it is therefore not suitable for the analysis of vinpocetine plasma concentrations in pharmacokinetic studies. It was this very reason that forced Hammes and Weyhenmeyer to develop their method [3].

(2) The chromatograms published by us [4] proved that (a) a transesterification takes place, when the method of Hammes and Weyhenmeyer is used. (Figs. 1 and 2a and b in ref. 4); (b) there are no interferences (Fig. 2d in ref. 4).

(3) The validation of the method of Hammes and Weyhenmeyer is based on the supposition that “as the intercept is almost zero, one concentration is sufficient for calibration”. This has never been proved. Fundamentally the use of a one-point calibration is highly questionable. Meanwhile, we were able to prove by statistical analysis of more than 100 calibration curves that in most cases the intercept is significantly different from zero and therefore a one-point calibration cannot be accepted.

Finally, we would like to state that the method of Hammes and Weyhenmeyer is not suitable for the routine determination of vinpocetine in human plasma. Therefore in the future we would appreciate if all further scientific points to be discussed were sent directly to us.

REFERENCES

- 1 W. Hammes and R. Weyhenmeyer, *J. Chromatogr.*, 567 (1991) 504.
- 2 M. Polgár and L. Vereczkey, *Chromatogr. Biochem. Med. Environ. Res.*, 1 (1983) 77.
- 3 W. Hammes and R. Weyhenmeyer, *J. Chromatogr.*, 413 (1987) 264.
- 4 A. Lohmann and E. Dingler, *J. Chromatogr.*, 529 (1990) 442.