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Letter to the Editor

High-sensitivity determination of nadolol in plasma with mass-selective detection

Sir,

In a recent article [1] on the use of a mass-selective detector for the high-sensitivity determination of nadolol in plasma, Ribick et al. correctly indicate that the higher the mass number monitored the less likelihood there is of interferences at the retention time of the analyte. However, their method for the detection of trimethylsilylated nadolol is based on the monitoring of the ion *m/z* 86. Although this ion has a high intensity, it is unsuitable for selected-ion monitoring because it occurs at an *m/z* value where interfering ions are likely to occur. The authors state that this fragment which characterizes the tertiary butylamine structure is common to few β-blockers, e.g. metoprolol, and uncommon in biological compounds.

It should be clear, however, that apart from nadolol there exist several β-blockers with a *tert.*-butylamino group (bunitrolol, bupranolol, carteolol, penbutolol and timolol), which could give rise to chromatographic interferences, especially when the analysis is done with a 15-m column and an oven temperature programming rate of 24°C/min as proposed by Ribick et al. Moreover, the probability of interferences is even greater when considering the number of drugs, underivatized and even derivatized, the mass spectrum of which contains *m/z* 86 as base peak (e.g. prilocaine, lidocaine, procaine, mefexamide, etamiphylline, procainamide, butanilicaine, etafedrine, metoclopramide). Furthermore, to our knowledge, metoprolol is a β-adrenergic blocker with an isopropylamino group and does not contain a *tert.*-butylamine function.

Instead of using trimethylsilylimidazole as a derivatizing reagent and monitoring the unspecific *m/z* 86, one could perhaps better derivatize nadolol with trifluoroacetic acid anhydride [2, 3] and monitor higher and consequently more selective mass numbers. Using a moderate temperature programming and a 25-m CP Sil-5 CB column, we were able to separate most β-blockers, including

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nadolol [4]. Monitoring *m/z* 266 (base peak) should give the same sensitivity as in the work of Ribick et al., but with a higher reliability.

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