Stereoselective metabolic study of famprofazone.

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Famprofazone (1) metabolites were studied in human urine after medication by 50 mg oral dose. The human urine was collected over 48 h from six volunteers at time intervals of 6, 12, 24 and 48 h. The amount of famprofazone metabolites were recovered from the urine samples by application of Extrelut extraction method. The resultant extracts were derivatized using N-methyl-N-trimethylsilyl trifluoroacetamide (MSTFA) for trimethylsilylation followed by N-methyl-bis-trifluoroacetamide (MBTFA) for trifluoroacetylation. Methamphetamine (2) and 3-hydroxymethyl-propyphenazone (3), excreted in human urine, were identified as famprofazone metabolites by gas chromatography-mass spectrometry (GC-MS). The quantitative results revealed that the average amounts of 2 and 3, excreted in human urine were equal to 2.6 and 4 mg, respectively, through 48 h. However, 3 was analysed after enzymatic hydrolysis of the urine samples using beta-glucuronidase/arylsulphatase. The excreted methamphetamine enantiomers could be separated by application of indirect GC-technique using S(-)-N-trifluoroacetylprolyl chloride (TPC) as a chiral derivatizing agent. The average amount of (-)-methamphetamine isomer excreted in the urine was found to be three fold those of the (+)-isomer.

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