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## Simultaneous analysis of anti-obesity drugs in food and food supplements using LC/PDA and LC/MS

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Anti-obesity drugs such as ephedrine, liothyronine (T3), phenolphthalein, levothyroxine (T4) and fluoxetine are illegal to be included in food since abuse intake of the drugs via food without medical prescription can cause life-threatening side effects. Governmental agencies of food and drug safety invest their efforts to screen out food and food supplements illegally containing anti-obesity drugs. We developed a simple, rapid and simultaneous analysis method of ephedrine, liothyronine (T3), phenolphthalein, levothyroxine (T4) and fluoxetine in food and food supplements using liquid chromatography coupled with photodiode array detection (LC/PDA). Simultaneous analysis of the anti-obesity drugs using a developed method showed a good result with respect to specificity, linearity ( $r^2 > 0.99$ ), limit of detection, limit of quantification, precision ( $RSD < 8\%$ ), recovery (88-97%) and reproducibility. It also satisfied all standards suggested by AOAC for the analysis of anti-obesity drugs in food and food supplements. To confirm the detected anti-obesity drugs in food and food supplements, we also developed a qualitative analysis method by liquid chromatography coupled with mass spectrometry (LC/MS). Twenty food supplements were tested with the developed method. Anti-obesity drugs were not detected in all samples. As LC/PDA and LC/MS methods described in this study were simple, rapid and reliable, the methods may be suitable for a rapid and sensitive analysis of ephedrine, liothyronine (T3), phenolphthalein, levothyroxine (T4) and fluoxetine simultaneously in food and food supplements.

### Biography

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