

## Analysis of acid lysergic (LSD) in vitreous humor and oral fluid samples

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**Introduction:** LSD (Lysergic acid diethylamide) it's one of the strongest drugs known in the world and it's identification in biologic samples is very complicate because the concentration is very low and LSD in very instable. Alternative samples are being studied; however there is little information about the analysis of LSD in these matrixes. Vitreous humor is an alternative sample utilized in postmortem analysis and oral fluid in cases in vivo, both are easily collected and handled. **Objectives:** Analysis of LSD in vitreous humor and oral fluid using SPE (Solid Phase Extraction) and GC-MS (Gas Chromatography-Mass Spectrometry). **Methods:** 1 mL of vitreous humor or oral fluid is spiked with LSD and 1 mL of phosphate buffer (pH=6) is added. The sample is applied directly in the SPE column and then washed with 1 mL of deionized water, 2 mL of hydrochloric acid 0.1M and 1 mL of ethyl acetate. The column is dried for five minutes and LSD is eluted with 3 mL of ethyl acetate with 2% of ammonium hydroxide. The eluate is evaporate to dryness and derivatized with 20 µL of MSTFA for 20 minutes in 60°C. Finally, the extract is injected in the GC-MS, using SIM mode. **Results:** The SPE technique resulted in clean extracts and the extraction of LSD. The chromatographic analysis identified LSD in samples spiked with 01 and 03 ng/mL. **Conclusion:** The developed technique showed promising results for LSD analysis since it had positive results in the extraction of vitreous humor and saliva samples spiked with low concentrations of LSD.

**Keywords:** LSD, Vitreous Humor, Oral Fluid, GC-MS.

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