

Stability of Amphetamine (AMP) in Oral Fluid over a Nine Month Period

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Abstract

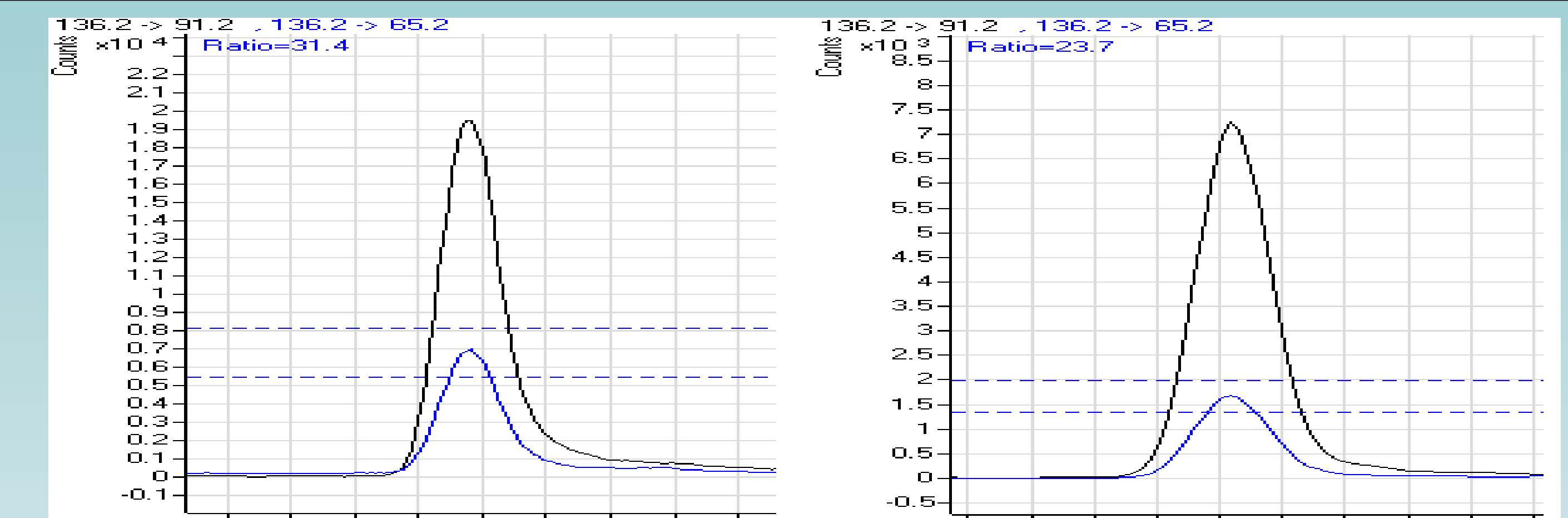
Background: Oral fluid is a useful biological specimen to detect recent usage of drugs and has specific advantages over urinalysis. However, the stability of drugs of abuse in the oral fluid/buffer matrix has not been widely studied.

Sample Collection: In order to assess the epidemiology of alcohol and drug use in a college bar district located in the state of Florida, self-report and biological data were collected from randomly selected and self-selected patrons exiting bars to examine associations between alcohol intoxication level, concomitant drug use, intent to drive a motor vehicle within an hour of study participation, and related behaviors. The protocol was completely anonymous and approved by a University of Florida IRB. Participants provided verbal informed consent. Data were collected from 10:00 p.m. to 2:30 a.m. on four nights in July/August 2007. The participants in the study were mostly men (64.7%) and Caucasian (78.4%) with a reported mean age of 21.4y. To examine drug use, oral fluid specimens were taken using the Quantisal™ collection device, which provides 1mL of neat saliva diluted with transportation buffer (3mL). Specimens were shipped overnight to Immunoanalysis for testing. Following ELISA screening and confirmation of positives with LC/MS/MS, the specimens were stored at -20°C. Nine months later they were re-tested.

Data Comparison

Sample #	Concentration (ng/mL)		
	Original	9 month	% remaining
1	151	161	6.6
2	100	116	16.0
3	267	271	1.5
4	77	93	20.8
5	137	159	16.1
6	116	122	5.2
7	95	98	3.2
8	166	164	-1.2
9	69	75	8.7
10	84	83	-1.2
11	65	78	20.0
		Mean	8.7
		STDEV	8.22

Amphetamine Sample 6



Initial analysis 116ng/mL

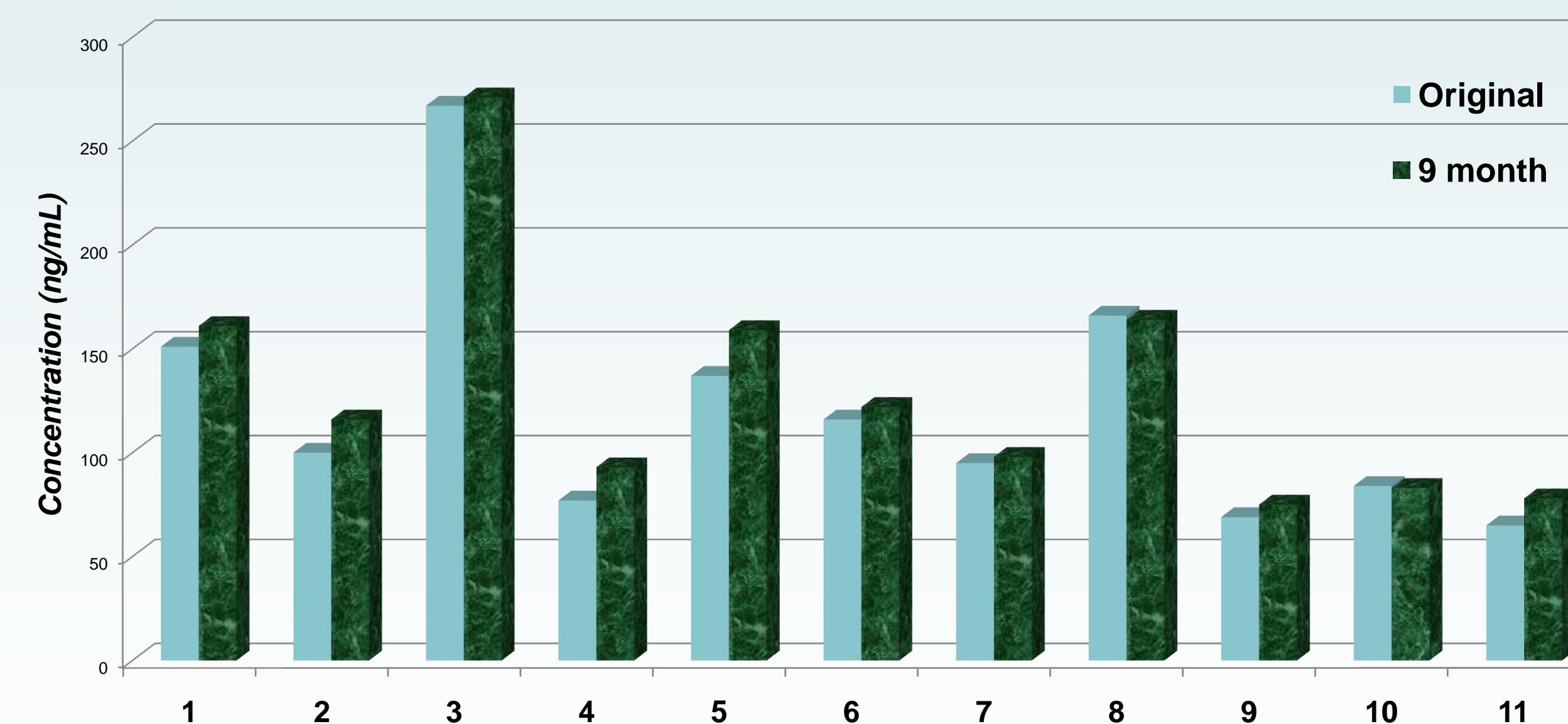
9 month re-analysis 122ng/mL

Results and Discussion

Of 456 specimens, twelve (2.6%) were found to be positive for amphetamine. No specimens indicated the presence of methamphetamine, MDA, MDMA or MDEA. There was sufficient volume remaining to re-test eleven of the specimens. Amphetamine was stable over the 9 month storage period, with all 11 analyses effectively indicating no change from the original concentration. Samples which appeared to increase slightly may be accounted for by analytical variability, and all concentrations were within 20% of the original result.

Summary: Amphetamine in the Quantisal™ oral fluid collection device is highly stable over 9 months when stored at -20°C.

Stability of Amphetamine in Quantisal™



Amphetamine indicated no significant change from original concentration

❖ **Variability was within 20%**

❖ **Quantisal collection device demonstrates excellent sample preservation**