



NMS Labs

CONFIDENTIAL

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Robert A. Middleberg, PhD, F-ABFT, DABCC-TC, Laboratory Director

Demo Report

Report Issued 08/15/2022 09:46
Last Report Issued 12/21/2021 12:28

88888
Clinical Example Report
Attn: Example Reports
200 Welsh Road
Horsham, PA 19044

Patient Name 8756SP-POS
Patient ID 8756SP-POS
Chain 21002022
DOB Not Given
Sex Not Given
Workorder 21002022
Received 12/14/2021

Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS
Container Type Clear vial

Collect Dt/Tm Not Given
Source Not Given

Approx Vol/Weight Not Given

Receipt Notes Not frozen as required

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes

8756SP Novel Psychoactive Substances (NPS)
Screen 1, Serum/Plasma

Analysis by High Performance Liquid Chromatography/Time of Flight-Mass Spectrometry (LC/TOF-MS)

Table with 4 columns: Substance Name, Result, Units, Reporting Limit. Includes rows for 2-fluoro Deschloroketamine, 2-Furanylfentanyl, 3-hydroxy-PCP, 3-MeO-PCP, and 4-ANPP.

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include Acetyl Fentanyl, Acrylfentanyl, Alpha-Hydroxyetizolam, alpha-PHP / alpha-PiHP, alpha-PVP, Benzylone, Bromazepam, Butylone, Butyrylfentanyl, Carfentanil, cis-3-Methylfentanyl, Clonazolam, Cyclopropylfentanyl, and Delorazepam.

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
Deschloroketamine Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).	See Comment	ng/mL	5.0	
Dibutylone Synonym(s): bk-DMBDB; beta-keto-Dimethylbenzodioxolylbutanamine	None Detected	ng/mL	10	
Diclazepam Diclazepam is known to have limited stability in serum/plasma which may be dependent upon pH, collection tube, and storage temperature. Negative results should be interpreted with caution.	None Detected	ng/mL	20	
Ethylone Synonym(s): bk-MDEA; MDEC; 3,4-Methylenedioxy-N-ethylcathinone Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s). Ethylone is known to have limited stability in serum and plasma which may be dependent upon pH, collection tube, and storage temperature. Negative results should be interpreted with caution.	See Comment	ng/mL	10	
Etizolam	None Detected	ng/mL	10	
Eutylone Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).	See Comment	ng/mL	5.0	
Fentanyl Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).	See Comment	ng/mL	1.0	
Flualprazolam Comment: Based on this screening result, confirmation testing was performed. Refer to the confirmation test result(s).	See Comment	ng/mL	0.50	
Flubromazepam	None Detected	ng/mL	20	
Flubromazolam	None Detected	ng/mL	5.0	
Isobutyrylfentanyl	None Detected	ng/mL	0.10	
Methoxyacetylfentanyl	None Detected	ng/mL	0.50	
Mitragynine Synonym(s): Kratom	None Detected	ng/mL	10	
N-butyl Pentylone	See Comment	ng/mL	5.0	

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include various substances like N-ethyl Pentylone, Norfentanyl, ortho-Fluorofentanyl, para-Fluorofentanyl, para-Fluoroisobutyrylfentanyl, Pentylone, Phenazepam, trans-3-Methylfentanyl, U-47700, and Valeryl fentanyl.

Sample receipt condition is inappropriate for test code: Not frozen as required

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

52306SP 3-MeO-PCP and 3-hydroxy-PCP Confirmation (Qualitative), Serum/Plasma

Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)

Table with 4 columns: Analysis and Comments, Result, Units, Reporting Limit. Row for 3-hydroxy-PCP with result Positive and reporting limit 5.0.

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
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3-hydroxy-PCP is structurally similar to PCP (phencyclidine) and is considered a PCP alternative that has emerged on the novel psychoactive substances (NPS) market.

3-MeO-PCP	Positive	ng/mL	5.0	
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Synonym(s): 3-Methoxy-PCP; 3-Methoxyphencyclidine
3-MeO-PCP is structurally similar to PCP (phencyclidine) and is among the first PCP alternatives to emerge on the novel psychoactive substances (NPS) market. Substance(s) known to interfere with the identity and/or quantity of the reported result: 4-MeO-PCP
The presence of 4-MeO-PCP above 1000 ng/mL may affect the identification of 3-MeO-PCP. If additional testing is needed, please contact the laboratory.

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

52307SP Eutylone Confirmation, Serum/Plasma

Analysis by High Performance Liquid Chromatography/
Tandem Mass Spectrometry (LC-MS/MS)

Eutylone	50	ng/mL	5.0	
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Synonym(s): N-ethylbutylone; beta-keto-Ethylbenzodioxolylbutanamine; bk-EBDB
Eutylone is classified as a synthetic stimulant and belongs to the beta-keto-methylenedioxyamphetamine subclass, which includes synthetic stimulants methylone, butylone, ethylone, and N-ethylpentylone.

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

52308SP NPS Stimulants Confirmation (Qualitative), Serum/Plasma

Analysis by High Performance Liquid Chromatography/
Tandem Mass Spectrometry (LC-MS/MS)

alpha-PHP / alpha-PiHP	Positive	ng/mL	5.0	
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Synonym(s): PV-7; a-PHP; a-PiHP; alpha-Pyrrolidinohexanophenone; alpha-Pyrrolidinohexiophenone; alpha-Pyrrolidinoisohexanophenone

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
Alpha-PHP and alpha-PiHP (alpha-Pyrrolidinohexiophenone, alpha-Pyrrolidinohexanophenone, alpha-Pyrrolidinoisohexanophenone) are psychoactive stimulants of the pyrrolidinophenone series that are structurally related to alpha-PVP. These compounds have been sold as novel psychoactive substances (NPS) for their stimulating and empathogenic effects and are used as alternatives to amphetamine, MDMA, and/or cocaine. Alpha-PHP and its isomer alpha-PiHP are not differentiated. If additional testing is needed, please contact the laboratory.				
Benzyllone	Positive	ng/mL	5.0	
Synonym(s): 3,4-Methylenedioxy-N-benzylcathinone; BMDP; N-benzyl methylone; N-benzyl-3,4-methylenedioxycathinone				
Benzyllone is classified as a synthetic stimulant and belongs to the beta-keto-methylenedioxyamphetamine subclass, which includes synthetic stimulants methylone, butylone, ethylone, and N-ethylpentylone.				
N-butyl Pentylone	Positive	ng/mL	5.0	
Synonym(s): N-butylpentylone; bk-BBDP; bk-Butyl-K				
N-butyl Pentylone is classified as a synthetic stimulant and belongs to the beta-keto-methylenedioxyamphetamine subclass, which includes synthetic stimulants methylone, butylone, ethylone, and N-ethylpentylone.				

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

52309SP Alpha-PVP Confirmation, Serum/Plasma

Analysis by High Performance Liquid Chromatography/
Tandem Mass Spectrometry (LC-MS/MS)

alpha-PVP	5.0	ng/mL	2.0	
Synonym(s): alpha-Pyrrolidinovalerophenone; alpha-pyrrolidinopentiophenone				
Alpha-PVP is a novel psychoactive stimulant. Alpha-PVP is known to have limited stability in serum and plasma which may be dependent upon pH, collection tube, and storage temperature. Results should be interpreted with caution.				

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

52328SP Substituted Cathinone Panel Confirmation, Serum/Plasma

Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)

Ethylone None Detected ng/mL 10

Ethylone is a substituted cathinone that is sold recreationally as a novel psychoactive substance. Ethylone is a stimulant type drug, with effects similar to that of cocaine, with some additional activity at serotonin receptors. Synthetic cathinone users report psychological, cardiovascular, and neurological sympathomimetic symptoms, with effects ranging from tachycardia, vasoconstriction, seizures, agitation, aggression, and psychosis. Ethylone is increasingly being detected in a range of forensic toxicology cases, including both human performance and postmortem cases. In nine postmortem cases, ethylone blood concentrations ranged from 38 to >2,500 ng/mL; almost all cases involved additional findings. Ratio of whole blood concentrations to serum or plasma concentrations is unknown for this analyte.

Butylone None Detected ng/mL 10

Butylone is a substituted cathinone that is sold recreationally as a novel psychoactive substance. Butylone is a stimulant type drug, with effects similar to that of cocaine, with some additional activity at serotonin receptors. Synthetic cathinone users report psychological, cardiovascular, and neurological sympathomimetic symptoms, with effects ranging from tachycardia, vasoconstriction, seizures, agitation, aggression, and psychosis. Synthetic cathinones, including butylone, are increasingly being detected in a range of forensic toxicology cases, including both human performance and postmortem cases. There is one case report of a 24 year old female who died after ingesting a combination of methylone and butylone which was sold to her as 'Ecstasy'; she died of multi-organ failure stemming from serotonin syndrome.

Results for sample 21002022-001 are continued on next page



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Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include Pentylone, N-Ethyl Pentylone, and Dibutylone with detailed descriptions and results.

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

Results for sample 21002022-001 are continued on next page



Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
52486SP Fentanyl and 4-ANPP Confirmation, Serum/Plasma				
Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)				
Fentanyl	10	ng/mL	0.10	
Synonym(s): Duragesic®; Sublimaze®				
Immediately following a single 2 mcg/kg I.V. dose: Up to 11 ng/mL, declining to 1 ng/mL after one hour. Following the application of a 100 mcg/hour transdermal patch, serum levels (after an initial lag time of approximately six hours) of 0.8 - 2.6 ng/mL were maintained for more than 24 hours after application. Peak plasma levels following a single oral transmucosal dose (Fentanyl Oralet) of 15 mcg/kg to children: 2 - 4 ng/mL at 20 minutes.				
Norfentanyl	None Detected	ng/mL	0.20	
Synonym(s): Fentanyl Metabolite				
4-ANPP	10	ng/mL	0.10	
Synonym(s): Despropionyl fentanyl				
4-ANPP (despropionylfentanyl) is a precursor chemical used in the production of fentanyl/fentanyl related compounds and is also a fentanyl metabolite and may be a metabolite of other fentanyl-related compounds. It is considered to be pharmacologically weak.				
Acetyl Fentanyl	None Detected	ng/mL	0.10	
Acetyl fentanyl is a novel non-prescription synthetic opioid that has been implicated in several deaths. This fentanyl analog was previously undocumented in illicit drug use and is estimated to be five times more potent than heroin. Several state agencies have issued public health warnings. The Centers for Disease Control (CDC) has recommended increased vigilance by public health agencies, emergency departments, state laboratories, medical examiners, and coroners for patients with symptoms consistent with opioid overdose. It is also recommended that if a fentanyl immunoassay (e.g., ELISA) produces a positive result additional confirmation testing be performed and that this testing should include fentanyl and its analogs, including acetyl fentanyl.				

Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Analysis and Comments	Result	Units	Reporting Limit	Notes
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This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.

**52502SP Designer Benzodiazepines Confirmation
1, Serum/Plasma**

Analysis by High Performance Liquid Chromatography/
Tandem Mass Spectrometry (LC-MS/MS)

Bromazepam	None Detected	ng/mL	5.0	
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Bromazepam is a benzodiazepine drug that is used as a novel psychoactive substance. It is reported to have CNS depressant properties and shares anticonvulsant, muscle relaxant, hypnotic, anxiolytic and sedative effects with other benzodiazepines. It is not approved for use in the United States, but is available in some other countries.

Average peak plasma concentrations following a single 3 mg, 6 mg and 12 mg dose were reported to be 10 ng/mL at 8 hours, 83 ng/mL at 2 hours and 130 ng/mL at 1-4 hours after dosing, respectively. Chronic oral administration of 9 mg daily resulted in an steady-state plasma concentrations of 81-150 ng/mL (Average = 120 ng/mL). Reported half-lives are 12 - 27 hours.

The blood to serum/plasma ratio is not known.

Clonazolam	None Detected	ng/mL	5.0	
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Clonazolam is a benzodiazepine drug that is used as a novel psychoactive substance.

Flualprazolam	5.0	ng/mL	2.0	
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Flualprazolam is a benzodiazepine drug that is used as a novel psychoactive substance.

Flubromazolam	None Detected	ng/mL	2.0	
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Flubromazolam is a benzodiazepine drug that is used as a novel psychoactive substance.

Alpha-Hydroxyetizolam	None Detected	ng/mL	2.0	
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Results for sample 21002022-001 are continued on next page



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Lab ID 21002022-001
Matrix Serum or Plasma
Patient Name 8756SP-POS
Patient ID 8756SP-POS

Collect Dt/Tm Not Given
Source Not Given

Table with 5 columns: Analysis and Comments, Result, Units, Reporting Limit, Notes. Rows include Etizolam, Flubromazepam, Delorazepam, Phenazepam, and Diclazepam with their respective results and reporting limits.

Sample receipt condition is inappropriate for test code: Not frozen as required

This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration.