

Opioid Analytical Standards

Cayman Chemical is dedicated to working with the forensic community to quickly make authentic reference standards available from our ISO/IEC 17025 and ISO 17034 laboratories. In response to the opioid epidemic, our catalog has expanded to now contain more than 500 opioid standards to help identify, confirm, and quantify these drugs of abuse. This includes a wide collection of fentanyls and other emerging synthetic opioids as well as plant-derived opiates and their metabolites and internal standards. A library of mass spectral data containing many of Cayman's emerging opioid standards is freely available for download at www.caymanchem.com/CSL.



ACCREDITED
ISO/IEC 17025 #AT-1773
ISO 17034 #AR-1774

More than 500 Opioid Standards for

- Synthetic Opioids
 - Fentanyls
 - Utopioids
 - AH-, MT-45, and W-Series
- Opiates
 - Prescription Drugs
 - Semi-Synthetic Street Drugs
 - Opioid Antagonists

Tools to Rapidly Screen for Prevalent Opioids

Synthetic Opioid Mixtures

GC-MS Opioid Mixture 1

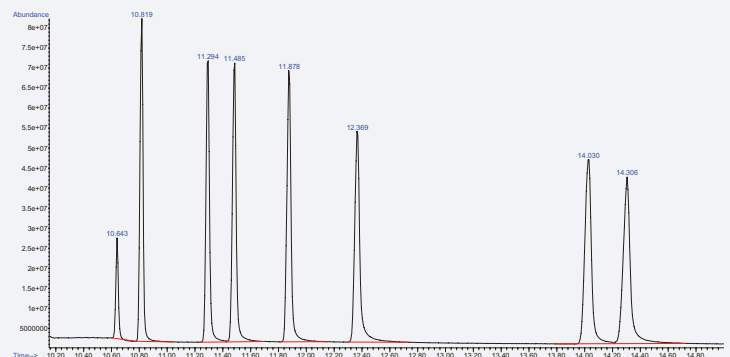
Item No. 23629

A mixture of 7 common synthetic opioids (1 mg/ml of each): acetyl fentanyl, acrylfentanyl, butyryl fentanyl, cyclopropyl fentanyl, fentanyl, furanyl fentanyl, and U-47700

GC-MS Opioid Mixture 2

Item No. 23876

A mixture of 8 common synthetic opioids (1 mg/ml of each): cyclopentyl fentanyl, methoxyacetyl fentanyl, (\pm)-*cis*-3-methyl fentanyl, tetrahydrofuran fentanyl, *ortho*-fluorofentanyl, FIBF, U-48800, and U-49900



Representative chromatogram of the compounds included in the GC-MS Opioid Mixture 2

Peak order from left to right: U-48800, U-49900, FIBF, *ortho*-fluorofentanyl, (\pm)-*cis*-3-methyl fentanyl, methoxyacetyl fentanyl, cyclopentyl fentanyl, tetrahydrofuran fentanyl

Custom Opioid Mixtures, Screening Libraries, and Plates Available

Email sales@caymanchem.com to discuss your specific project needs

Fentanyl

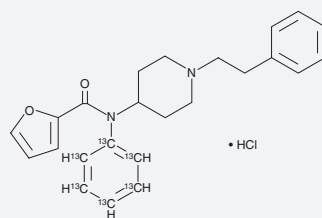
Cayman has been shocked into action in response to the precipitous upswing in fentanyl analogs. Our growing catalog now contains more than 300 standards for the identification, confirmation, and quantification of fentanyls and their metabolites. Many of these fentanyl compounds are also available as Certified Reference Materials (CRMs). To assist labs in the identification of novel fentanyls, we also offer many resources and tools including a GC-MS Spectral Library, GC-MS Search Tool, and an unknown identification service.

Parent Compounds

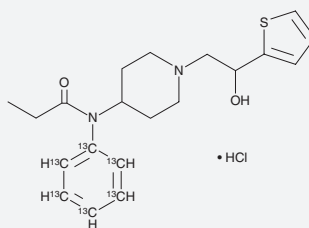
Item No.	Product Name
23548	<i>ortho</i> -methyl Acetyl fentanyl (hydrochloride)
26276	Benzodioxole fentanyl (CRM) *
25936	Benzyl fentanyl (hydrochloride) (CRM) *
19734	Butyryl fentanyl (hydrochloride) (CRM) *
19884	Carfentanil (CRM) *
26637	Crotonyl fentanyl (CRM) *
26351	Cyclopentyl fentanyl (hydrochloride) (CRM) *
23603	Cyclopropyl fentanyl (hydrochloride) (CRM) *
26314	Cyclopropyl fentanyl- ¹³ C ₆ (hydrochloride) (CRM) *
25274	N-benzyl <i>meta</i> -fluoro Cyclopropyl norfentanyl (hydrochloride)
26315	Fentanyl- ¹³ C ₆ (hydrochloride) (CRM) *
21676	(±)- <i>cis</i> -3-methyl Fentanyl (hydrochloride) (CRM) *
26215	(±)- <i>trans</i> -3-methyl Fentanyl (hydrochloride) (CRM) *
26354	<i>ortho</i> -Fluorobutyryl fentanyl (hydrochloride) (CRM) *
19826	<i>para</i> -Fluorobutyryl fentanyl (hydrochloride) (CRM) *
19735	<i>para</i> -Fluorofentanyl (hydrochloride) (CRM) *
19633	Furanyl fentanyl (hydrochloride) (CRM) *
26050	<i>meta</i> -methoxy Furanyl fentanyl
23540	Methoxyacetyl fentanyl (hydrochloride) (CRM) *
19635	Ocfentanil (hydrochloride) (CRM) *
25887	Phenyl fentanyl (hydrochloride) (CRM) *
19798	Valeryl fentanyl (CRM) *

* Compound also available as a neat solid

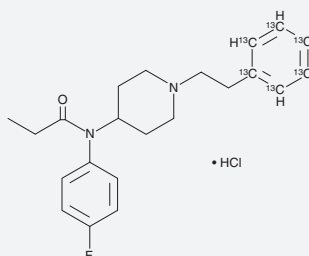
New: ¹³C-Labeled Internal Standards



Furanyl fentanyl-¹³C₆
(hydrochloride)
Item No. 25565



β -Hydroxythiofentanyl
-¹³C₆ (hydrochloride)
(CRM)
Item No. 26617



para-Fluorofentanyl
-¹³C₆ (hydrochloride)
(CRM)
Item No. 26638

View a complete list of our isotopically labeled standards at www.caymanchem.com/forensics

Metabolites

Item No.	Product Name
22700	4-ANPP (CRM) *
25559	4-ANPP- ¹³ C ₆ (CRM) *
19561	Butyryl norfentanyl (hydrochloride) (CRM) *
25078	Cyclopropyl norfentanyl (hydrochloride) (CRM) *
26427	Despropionyl <i>ortho</i> -Fluorofentanyl (CRM) *
26428	Despropionyl <i>para</i> -Fluorofentanyl (CRM) *
19559	Furanyl norfentanyl (hydrochloride) (CRM) *
22182	Norcarfentanil (hydrochloride) (CRM) *
ISO60195	Norfentanyl (CRM) *
9001142	Norsufentanil

* Compound also available as a neat solid

Request our wall poster guide to the identification, naming, and metabolism of fentanyls at www.caymanchem.com/literature

Non-Fentanyl Synthetic Opioids

Utopioids

Item No.	Product Name
19397	U-47700 (CRM) *
19220	U-47700-d ₆ (CRM) *
22753	3,4-Methylenedioxy U-47700 (hydrochloride)
24263	Isopropyl U-47700
24434	Propyl U-47700
20471	N-desmethyl U-47700 (CRM) *
24289	N,N-didesmethyl U-47700 (trifluoroacetate salt) (CRM) *
20530	U-47931E
24286	N-methyl U-47931E
26274	U-48520
25522	U-48800 (hydrochloride) (CRM) *
23999	U-49900 (CRM) *
19363	U-50488 (hydrochloride)
24264	U-51754 (hydrochloride) (CRM) *
23747	3,4-Ethylenedioxy U-51754 (hydrochloride)
25072	U-62066 (mesylate)

* Compound also available as a neat solid

AH-, MT-45, and W-Series

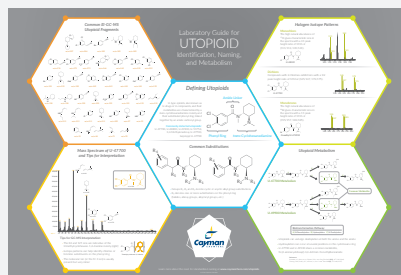
Item No.	Product Name
19732	AH 7921 (CRM) *
19222	AH 7921-d ₃ (CRM)
19336	AH 8533
19737	MT-45 (hydrochloride) (CRM) *
25288	2-fluoro MT-45 (hydrochloride)
25290	4-fluoro MT-45 (hydrochloride)
19482	W-15 (CRM) *
20413	W-15-d ₄ (CRM)
19483	W-18 (CRM) *
20366	W-18-d ₄ (CRM)
19713	nor-W-18
20317	nor-W-18-d ₄
19484	W-19 (hydrochloride)
19487	W-19-d ₄ (hydrochloride)

* Compound also available as a neat solid

Utopioid Lab Guide Wall Poster

In this guide to the identification, naming, and metabolism of U-type opioids:

- Common EI-GC-MS Utopioid Fragments
- Mass Spectrum of U-47700
- Tips for GC-MS Interpretation
- Halogen Isotope Patterns
- Utopioid Metabolism



Request a physical copy of this wall poster at www.caymanchem.com/literature

Other Synthetic Opioids

Item No.	Product Name
26484	AP-237 (hydrochloride)
26485	2-methyl AP-237 (hydrochloride)
15608	Bromadol
ISO60145	(±)-Methadone (hydrochloride) (CRM) *
19406	Meperidine (hydrochloride) (CRM)
20899	Normeperidine (hydrochloride) (CRM) *
20896	Normeperidine-d ₄ (hydrochloride) (CRM) *
26335	Piperidylthiambutene (hydrochloride)
ISO60184	(+)-Propoxyphene (hydrochloride) (CRM)
19693	(+)-Propoxyphene-d ₅ (hydrochloride) (CRM)
18660	Tapentadol (hydrochloride) (CRM) *
18730	Tapentadol-d ₃ (hydrochloride) (CRM)
ISO60149	cis-Tramadol (hydrochloride) (CRM) *
23748	cis-Tramadol- ¹³ C-d ₃ (hydrochloride) (CRM)

* Compound also available as a neat solid

Be the first to know about novel synthetic opioids showing up in casework. Subscribe to our forensic emails at www.caymanchem.com/register

Parent Compounds & Precursors

Item No.	Product Name
ISO60178	Buprenorphine (hydrochloride) (CRM) *
23812	Butorphanol (tartrate)
ISO60140	Codeine (CRM) *
18052	Codeine-d ₃ (CRM)
15126	Desomorphine
ISO60142	Dihydrocodeine (CRM) *
ISO60187	Heroin (CRM) *
24549	Heroin-d ₅ (CRM)
ISO60144	Hydrocodone (CRM) *
18567	Mitragynine (CRM) *
18930	Mitragynine-d ₃ (CRM) *
ISO60147	Morphine (CRM) *
24514	Morphine-d ₃ (CRM)
ISO60148	Oxycodone (CRM) *
ISO60203	Oxycodone-d ₃ (CRM) *
22024	Thebaine (CRM) *

* Compound also available as a neat solid

Fentanyl Analog Screening Kit

To support the detection of emerging opioids, the CDC has contracted Cayman to manufacture and distribute Fentanyl Analog Screening Kits to qualified US labs. This kit contains reference materials for 150 synthetic opioid compounds, including more than 140 fentanyl analogs.



Visit www.caymanchem.com/faskit for complete instructions on how to apply for a free FAS Kit.

Metabolites

Item No.	Product Name
19418	6-Acetylmorphine (CRM) *
25518	6-Acetylmorphine-d ₆ (CRM)
25986	Dihydromorphine (CRM) *
25668	6β-Hydrocodol (CRM) *
21535	6β-Hydrocodol N-oxide
25669	6β-Hydromorphol (CRM) *
ISO60146	Hydromorphone (CRM) *
13114	7-hydroxy Mitragynine
20127	Norbuprenorphine (CRM) *
23816	Norcodeine
22661	Norhydrocodone (hydrochloride) (CRM) *
22662	Norhydrocodone-d ₃ (hydrochloride) (CRM) *
20407	Noroxycodone (CRM) *
20408	Noroxycodone-d ₃ (CRM)
15903	Noroxymorphone
25938	6α-Oxycodol (CRM) *
21539	6α-Oxycodol N-oxide
24939	nor-6α-Oxycodol (CRM) *
25939	6β-Oxycodol (CRM) *
21541	6β-Oxycodol N-oxide
25987	nor-6β-Oxycodol (CRM) *
25940	6α-Oxymorphol (CRM) *
25941	6β-Oxymorphol (CRM) *
ISO60171	Oxymorphone (CRM) *

* Compound also available as a neat solid

Opioid Antagonists

Item No.	Product Name
22717	6β-Naloxol (CRM) *
ISO60191	Naloxone (hydrochloride) (CRM) *
18274	Naloxone-d ₅ (CRM) *
19323	Naltrexone-d ₃ (CRM) *

* Compound also available as a neat or crystalline solid

View a complete list of more than 100 opiates including their internal standards and metabolites at www.caymanchem.com/forensics