## Supelco® Analytical Products

# Merck

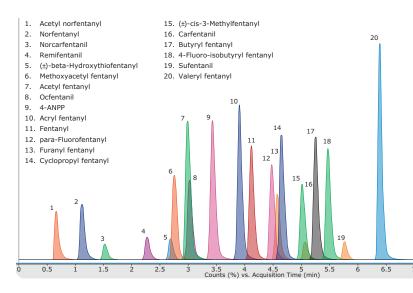
### **Fentanyls**

The emergence of fentanyls as drugs of abuse represents the greatest challenge to current forensic toxicology. Recently, a huge number of new fentanyl structural variants, also known as designer fentanyls, have appeared on the illicit drug market. Often mixed with traditional opioid drugs, these highly potent fentanyl analogues have caused harmful intoxications and dramatically increased opioid related mortality in the United States, Europe and Asia. Due to the very high potency of some fentanyl analogues, forensic testing labs are facing the challenge of detecting minimal trace amounts of drug in biological samples while ensuring laboratory safety.

To help address these safety challenges, we provide Certified Spiking Solutions<sup>®</sup> of the most potent fentanyl analogues, such as Carfentanyl, in an ampoule additionally protected in a "safety can", ensuring safe transport and handling in the lab. Since all fentanyls are classified as controlled substances, we offer Cerilliant<sup>®</sup> fentanyl reference standards as DEA-exempt solutions for added convenience.



#### LC/MS/MS Analysis of Fentanyl and Fentanyl Analogs



Column	Supelco Titan <sup>™</sup> C18, 5 cm × 2.1 mm I.D., 1.9 µm particles (577122-U)	
Column temp.	40 °C	
Sample	1.0 ng/mL in 90:10 methanol:water	
Injection volume	1.0 µL	
Mobile phase A	0.1% formic acid in water	
Mobile phase B	0.1% formic acid in acetonitrile	
Flow rate	0.4 mL/min	
Gradient	Time (min)	%В
	0	15
	0.3	15
	5.5	30
	7.0	95
	9.0	95
Instrument	Agilent 1290 Infinity II UHPLC	
	Agilent 6495 Triple Quad LC/MS	
MS/MS mode	MRM	
Ion mode	Positive	

	escription
M-194-0.5ML (±)	)-cis-3-Methylfentanyl HCl, 100 μg/mL (as free base) in methanol
H-130-0.5ML (±)	)-β-Hydroxythiofentanyl HCl, 100 µg/mL (as free base) in methanol
A-139-0.5ML 4-A	ANPP, 100 μg/mL in methanol
A-157-0.5ML 4-A	ANPP-D5, 100 µg/mL in methanol
F-050-0.5ML 4-F	Fluoroisobutyrylfentanyl, 100 µg/mL in methanol
A-109-1ML Ace	etyl fentanyl, 1.0 mg/mL in methanol
A-129-1ML Ace	etyl fentanyl, 50 μg/mL in methanol
A-110-1ML Ace	etyl fentanyl-13C6, 100 μg/mL in methanol
A-130-1ML Ace	etyl fentanyl-13C6, 50 μg/mL in methanol
A-115-1ML Ace	etyl norfentanyl oxalate 1.0 mg/mL (as free base) in methanol
A-116-1ML Ace	etyl norfentanyl-13C6 oxalate, 100 μg/mL (as free base) in methanol
A-140-0.5ML Acr	ryl fentanyl HCl, 100 µg/mL (as free base) in methanol
A-071-1ML Alfe	entanil HCl, 1.0 mg/mL (as free base) in methanol
B-066-0.5ML But	tyryl fentanyl, 100 μg/mL in methanol
C-162-1EA Car	rfentanil Oxalate, 100 µg/mL in methanol
C-163-1EA Car	rfentanil-D5 Oxalate, 100 µg/mL (as free base) in methanol
C-177-0.5ML Cyc	clopropyl fentanyl HCl, 100 µg/mL (as free base) in methanol
F-013-1ML Fer	ntanyl, 1.0 mg/mL in methanol
F-002-1ML Fer	ntanyl, 100 μg/mL in methanol
F-001-1ML Fer	ntanyl-D5, 100 µg/mL in methanol
F-046-0.5ML Fur	ranyl fentanyl HCl, 100 μg/mL (as free base) in methanol
F-053-0.5ML Fur	ranyl fentanyl-D5 HCl, 100 µg/mL (as free base) in methanol
I-038-0.5ML Iso	obutyryl fentanyl HCl, 100 μg/mL (as free base) in methanol
M-200-0.5ML Me	ethoxyacetyl fentanyl HCl, 100 μg/mL (as free base) in methanol
N-114-1EA Nor	orcarfentanil Oxalate, 100 μg/mL (as free base) in methanol
N-031-1ML Nor	rfentanyl oxalate, 1.0 mg/mL (as free base) in methanol
N-055-1ML Nor	rfentanyl-D5 oxalate, 1.0 mg/mL (as free base) in methanol
N-030-1ML Nor	rfentanyl-D5 oxalate, 100 μg/mL (as free base) in methanol
0-047-0.5ML Ocf	fentanil, 100 µg/mL in methanol
F-054-0.5ML ort	tho-Fluorofentanyl HCl, 100 μg/mL (as free base) in methanol
F-048-0.5ML par	ra-Fluorobutyryl fentanyl (PFBF), 100 μg/mL in methanol
F-049-0.5ML par	ra-Fluorofentanyl, 100 µg/mL in methanol
R-026-1ML Rer	mifentanil acid, 100 µg/mL in acetonitrile
R-024-1ML Rer	mifentanil HCl, 100 µg/mL (as free base) in methanol
S-008-1ML Suf	fentanil Citrate, 100 μg/mL (as free base) in methanol
S-018-1ML Suf	fentanil-D5, 100 µg/mL in methanol
V-048-0.5ML Val	leryl fentanyl HCl, 100 µg/mL (as free base) in methanol
V-068-0.5ML Val	leryl fentanyl-D5 HCl, 100 μg/mL (as free base) in methanol

#### To place an order or receive technical assistance

Customer Service: **SigmaAldrich.com/customersupport** Technical Service: **SigmaAldrich.com/techservice** To talk to a standards specialist: **standardsEU@sial.com** 

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