

Materials List for:

# Free Radicals in Chemical Biology: from Chemical Behavior to Biomarker Development

Chryssostomos Chatgililoglu<sup>1</sup>, Carla Ferreri<sup>1</sup>, Annalisa Masi<sup>1</sup>, Michele Melchiorre<sup>1</sup>, Anna Sansone<sup>1</sup>, Michael A. Terzidis<sup>1</sup>, Armida Torreggiani<sup>1</sup>

<sup>1</sup>ISOF - Bio Free Radicals, Consiglio Nazionale delle Ricerche

Correspondence to: Carla Ferreri at [carla.ferreri@isof.cnr.it](mailto:carla.ferreri@isof.cnr.it)

URL: <https://www.jove.com/video/50379>

DOI: [doi:10.3791/50379](https://doi.org/10.3791/50379)

## Materials

Name	Company	Catalog Number	Comments
<b>MATERIALS</b>			
Cholesteryl linoleate ≥98%	Sigma-Aldrich	C0289-100 mg	
Cholesteryl arachidonate ≥95%	Sigma-Aldrich	C8753-25mg	
2-mercapt-ethanol	Sigma-Aldrich	M6250-100 ml	
2-propanol	Sigma-Aldrich	34965-1L	
Methanol 215 SpS	Romil	H409-2,5 L	
Ethanol	Sigma-Aldrich	02860-2.5L	
Chloroform SpS	Romil	H135 2,5 L	
n-Hexane 95% SpS	Romil	H389 2,5 L	
Acetonitrile 230 SpS	Romil	H047 2,5 L	
Dichloromethane SpS	Romil	H2022,5 L	
Carbon tetrachloride	Sigma-Aldrich	107344-1L	
Sodium iodide	Sigma-Aldrich	383112-100G	
Sodium hydrogen carbonate	Carlo Erba	478536-500 g	
Diethyl ether	Sigma-Aldrich	309966-1L	
NaCl	Sigma-Aldrich	S7653-5KG	
NaOH solid	Sigma-Aldrich	221465-25G	
NH <sub>4</sub> OH sol. 28%-30%	Sigma-Aldrich	221228-1L-A	
Acetic acid	Sigma-Aldrich	320099-500ML	
Ammonium Cerium(IV)sulfate dihydride	Sigma-Aldrich	221759-100G	
Ammonium Molybdate tetrahydrate	Sigma-Aldrich	A7302-100G	
Sulfuric Acid 95%-98%	Sigma-Aldrich	320501-1L	
Silver Nitrate	Sigma-Aldrich	209139-25G	
Sodium sulfate anhydrous	Sigma-Aldrich	238597-500G	
Nuclease P-I from penicillium citrinum	Sigma-Aldrich	N8630-1VL	
Phosphodiesterase II type I-sa	Sigma-Aldrich	P9041-10UN	
Erythro-9-(2-hydroxy-3-nonyl)adenine, hc	Sigma-Aldrich	E114-25MG	
Phosphatase alkaline type VII-t from*bov	Sigma-Aldrich	P6774-1KU	
Phosphodiesterase I type VI	Sigma-Aldrich	P3134-100MG	
Deoxyribonuclease II type IV from*porcin	Sigma-Aldrich	D4138-20KU	

Trizma(r) base, biotechnology performance	Sigma-Aldrich	T6066-100G	
EDTA	Sigma-Aldrich	E1644-100G	
Succinic acid bioxtra	Sigma-Aldrich	S3674-250G	
Calcium chloride	Sigma-Aldrich	C5670-100G	
Formic acid, 98 %	Sigma-Aldrich	06440-100ML	
Amicon Ultra-0.5 Centrifugal Filter Unit with Ultracel-3 membrane	Millipore	UFC500324	
8-Bromo-2'-deoxyguanosine	Berry Associates	PR3290-1 g	
8-Bromo-2'-deoxyadenosine	Berry Associates	PR3300-1 g	
Sodium iodide	Sigma-Aldrich	383112-100G	
Sodium hydrogen carbonate	Carlo Erba	478536-500 g	
2'-deoxyguanosine:H <sub>2</sub> O (U-15N5, 96-98%)	Cambridge Isotope Laboratories, Inc	CILNLM-3899-CA-0.1	
2'-deoxyadenosine (U-15N5, 98%) 95%+ CHEMICAL PURITY	Cambridge Isotope Laboratories, Inc	CILNLM-3895-0.1	
Nitrous oxide (N <sub>2</sub> O)	Air Liquide		
Deoxyribonucleic acid from calf thymus	Sigma Aldrich	D4522-5MG	
<b>EQUIPMENT</b>			
60Co-Gammacell	AECL - Canada	220	
Immersion well reaction medium pressure 125 watts	Photochemical reactors ltd	Model 3010	
Evaporating flask 250 ml	Heidolph	P/N NS 29/32 514-72000-00	
Luna 5 µm C18(2) 100 Å, LC Column 250 x 4.6 mm	Phenomenex	00A-4252-E0	
Alltima C8 Column 250 x 10 mm 5 µm	Grace	88081	Semipreparative
SecurityGuard Kit	Phenomenex	KJ0-4282	Analytical holder kit and accessories
Holder for 10.0 mm ID cartridges	Phenomenex	AJ0-7220	Semipreparative holder
10.0 mm ID cartridges	Phenomenex	AJ0-7221	
High-performance liquid chromatography (HPLC)	Agilent	1100	
LC/MS/MS	Applied Biosystems	4000QTRAP System	
Tandem mass ESI spectrometer	(Bruker <i>Daltonics</i> )	Esquire 3000 plus	
Vial 2-4 ml	SUPELCO	Cod 27516	
Vial 4 ml	SUPELCO	Cod 27517	