

## MALDI Matrix Selection Guide

Common Abbreviation	CHCA	Sinapic Acid	DHB	DHAP	DAN
Chemical Name	$\pm$ -cyano-4-hydroxycinnamic acid	Sinapic acid	2,5-dihydroxybenzoic acid	2,6-dihydroxyacetophenone	1,5-diaminonaphthalene
Molecular Weight	189.17	224.21	154.12	152.15	158.2
CAS Number*	28166-41-8	530-59-6	490-79-9	89-84-9	2243-62-1
Sample Compatibility/ Application					
Peptides	X				
Small Proteins	X				
High Molecular Weight Proteins		X			
Carbohydrates			X		
Glycoproteins			X		
Complex Protein Sample Profiling				X	
Gangliosides					X
Oligonucleotides					
Glycolipids					
Phospholipids					
Synthetic Polymers					
Peptides with Disulfide Linkages					X
Chloroamine Detection					
MS with High Salt Content				X	
In-Source Decay Experiments			X		X
Part Numbers	CMS-100-50mg CMS-100-100mg	CMS-101-50mg CMS-101-100mg	CMS-102-50mg CMS-102-100mg	CMS-103-50mg CMS-103-100mg	CMS-104-50mg CMS-104-100mg

\*CAS Registry Number is a Registered Trademark of the American Chemical Society

(3-HPA)	THAP	HABA	MBT	CICCA	FCCA
3-hydroxypicolinic acid	2,4,6-trihydroxyacetophenone	2-(4'-hydroxybenzeneazo) benzoic acid	2-mercaptobenzo-thiazole	Chloro-cyanocinnamic acid	Fluoro-cyanocinnamic acid
139.11	152.15	242.23	167.25	207.6	191.2
874-24-8	480-66-0	1634-82-8	149-30-4	20374-46-3	122520-74-5
			X		
			X		
	X	X			
X	X				
		X			
				X	X
		X	X		
				X	X
CMS-105-100mg CMS-105-250mg	CMS-106-180mg CMS-106-450mg	CMS-107-50mg CMS-107-100mg	CMS-108-50mg CMS-108-100mg	CMS-109-50mg CMS-109-100mg	CMS-110-50mg CMS-110-100mg

## Ultrapure CHCA MALDI Matrix

Ultrapure  $\alpha$ -cyano-4-hydroxycinnamic acid (CHCA) is a recrystallized matrix for matrix-assisted laser desorption ionization (MALDI) mass spectrometry. Ultrapure CHCA matrix produces homogeneous crystals that lead to MALDI mass spectra with excellent resolution, high sensitivity, and high S/N ratios.

### FEATURES:

- Improved MALDI–MS sensitivity (higher S/N)
- Forms homogeneous crystals resulting in excellent resolution
- Easy reconstitution directly in vial for ready-to-use stock

## Ultrapure Sinapic Acid MALDI Matrix

Ultrapure Sinapic Acid is a recrystallized matrix for matrix-assisted laser desorption ionization (MALDI) mass spectrometry. The improved purity enhances the MALDI–MS signal sensitivity and S/N ratio.

### FEATURES:

- Improved MALDI–MS sensitivity (higher S/N)
- Easy reconstitution directly in vial for ready-to-use stock

## Ultrapure DHB MALDI Matrix

Ultrapure 2, 5-dihydroxybenzoic acid (DHB) is a recrystallized matrix for matrix-assisted laser desorption ionization (MALDI) mass spectrometry. The improved purity enhances the MALDI–MS signal sensitivity and S/N ratio.

### FEATURES:

- Improved MALDI–MS sensitivity (higher S/N)
- Easy reconstitution directly in vial for ready-to-use stock
- Higher tolerance to salts and detergents in the sample compared to other matrices

## Ultrapure DHAP MALDI Matrix

Ultrapure 2,6-dihydroxyacetophenone (DHAP) is a recrystallized matrix for matrix assisted laser desorption ionization (MALDI) mass spectrometry. DHAP is the matrix of choice for protein profiling using MALDI-TOF mass spectrometry, and it has a reduced sensitivity to the presence of salts in protein samples.

### FEATURES:

- Easy reconstitution directly in vial for ready-to-use stock
- Higher tolerance to the presence of salts in the protein sample for protein profiling (compared to CHCA and Sinapic acid)

### RESEARCH APPLICATIONS:

- MALDI mass spectrometry analysis of peptides and small proteins
- Post-source decay experiments

### ORDERING INFORMATION:

#### Ultrapure CHCA MALDI Matrix

Catalog Number	Size
CMS-100-50mg	50 mg
CMS-100-100mg	100 mg

### RESEARCH APPLICATIONS:

Analysis of high molecular weight proteins

### ORDERING INFORMATION:

#### Ultrapure Sinapic Acid MALDI Matrix

Catalog Number	Size
CMS-101-50mg	50 mg
CMS-101-100mg	100 mg

### RESEARCH APPLICATIONS:

- Analysis of carbohydrates and glycoproteins
- Peptide analysis in ISD (In-Source Decay) experiments

### ORDERING INFORMATION:

#### Ultrapure DHB MALDI Matrix

Catalog Number	Size
CMS-102-50mg	50 mg
CMS-102-100mg	100 mg

### RESEARCH APPLICATIONS:

- Protein profiling of complex protein samples (e.g. serum)
- Mass spectrometry analysis of protein samples with higher salt content

### ORDERING INFORMATION:

#### Ultrapure DHAP MALDI Matrix

Catalog Number	Size
CMS-103-50mg	50 mg
CMS-103-100mg	100 mg

## Ultrapure DAN MALDI Matrix

Ultrapure 1,5-diaminonaphthalene (DAN) is an important matrix used in peptide and protein analysis by matrix-assisted laser desorption/ionization (MALDI) mass spectrometry. The matrix is effective in promoting reduction of disulfide bonds in the gas phase, which greatly facilitates analysis of proteins and peptides containing disulfide linkages.

### FEATURES:

- Improves CID fragmentation of proteins with disulfide linkages
- Enhances in-source fragmentation of peptides
- Easy reconstitution directly in vial for ready-to-use stock

## Ultrapure 3-HPA MALDI Matrix

The Ultrapure 3-Hydroxypicolinic Acid (3-HPA) is a matrix for use in the analysis of oligonucleotides by matrix-assisted laser desorption/ionization (MALDI) mass spectrometry. The matrix is recrystallized for maximizing S/N and minimizing salt adducts.

### FEATURES:

- Convenient pre-weighed 50 mg vials.
- Reconstitution solution can be added directly to vial.
- Good matrices for oligonucleotides with lengths between 2-50 bases.

## Ultrapure THAP MALDI Matrix

Ultrapure 2,4,6-Trihydroxyacetophenone (THAP) is a recrystallized matrix for matrix-assisted laser desorption/ionization (MALDI) mass spectrometry. The matrix is useful for analysis of oligonucleotides and glycoproteins by MALDI-TOF mass spectrometry.

### FEATURES:

- Easy reconstitution of 90 mg of matrix per vial. Reconstitution solution can be added directly to vial.
- Forms MALDI spots with homogeneously distributed crystals.
- Effective for MALDI-TOF analysis of oligonucleotides composed of less than 50 bases.

## Ultrapure HABA MALDI Matrix

Ultrapure 2-(4'-Hydroxybenzeneazo) benzoic acid (HABA), is a recrystallized matrix for matrix-assisted laser desorption/ionization (MALDI) mass spectrometry. The matrix is useful for analysis of glycoproteins, glycolipids and synthetic polymers.

### FEATURES:

- Easy reconstitution of 10 mg of matrix per vial. Reconstitution solution can be added directly to vial

### RESEARCH APPLICATIONS:

- MS and MS/MS analysis of peptides and proteins with disulfide linkages
- Peptide analysis in ISD (In Source Decay) experiments
- Analysis of gangliosides by MALDI-MS

### ORDERING INFORMATION:

#### Ultrapure DAN MALDI Matrix

Catalog Number	Size
CMS-104-50mg	50 mg
CMS-104-100mg	100 mg

### RESEARCH APPLICATIONS:

- Analysis of oligonucleotides from molecular biology assays
- Detection of length variations in DNA nucleotide sequence repeats

### ORDERING INFORMATION:

#### Ultrapure 3-HPA MALDI Matrix

Catalog Number	Size
CMS-105-100mg	100 mg
CMS-105-250mg	250 mg

### RESEARCH APPLICATIONS:

- MALDI-TOF-MS analysis of Oligonucleotides
- Analysis of glycoproteins

### ORDERING INFORMATION:

#### Ultrapure THAP MALDI Matrix

Catalog Number	Size
CMS-106-180mg	180 mg
CMS-106-450mg	450 mg

### RESEARCH APPLICATIONS:

- MALDI-MS analysis of glycoproteins and glycolipids.
- MALDI-MS analysis of synthetic polymers.

### ORDERING INFORMATION:

#### Ultrapure HABA MALDI Matrix

Catalog Number	Size
CMS-107-50mg	50 mg
CMS-107-100mg	100 mg

## Ultrapure MBT MALDI Matrix

Ultrapure 2-mercaptobenzothiazole (MBT) is a recrystallized matrix for matrix assisted laser desorption ionization (MALDI) mass spectrometry. The matrix is useful for analysis of peptides and proteins with performance comparable to CHCA and Sinapic acid but with a higher tolerance to surfactants such as SDS in the sample.

### FEATURES:

- Easy reconstitution of 10 mg of matrix per vial. Reconstitution solution can be added directly to vial.
- Forms MALDI spots with homogeneously distributed crystals.
- Effective for MALDI-TOF analysis of proteins, peptides and synthetic polymers

## Ultrapure CICC MALDI Matrix

Ultrapure Chloro-Cyanocinnamic Acid (CICCA) is a recrystallized matrix for matrix assisted laser desorption ionization (MALDI) mass spectrometry. The matrix is useful for analysis of phospholipids and aids in the detection of chloroamines.

### FEATURES:

- Easy reconstitution of 10 mg of matrix per vial. Reconstitution solution can be added directly to vial.
- Forms MALDI spots with homogeneously distributed crystals.

## Ultrapure FCCA MALDI Matrix

Ultrapure Fluoro-Cyanocinnamic Acid (FCCA) is a recrystallized matrix for matrix assisted laser desorption ionization (MALDI) mass spectrometry. The matrix is useful for analysis of phospholipids and aids in the detection of chloroamines.

### FEATURES:

- Easy reconstitution of 10 mg of matrix per vial. Reconstitution solution can be added directly to vial.
- Forms MALDI spots with homogeneously distributed crystals.

## Oligonucleotide MALDI Matrix Kit

The oligonucleotide MALDI matrix kit contains Ultrapure 3-Hydroxy Picolinic Acid (3-HPA) MALDI matrix and a matrix reconstitution solution for the analysis of oligonucleotides using matrix assisted laser desorption ionization (MALDI) mass spectrometry. The matrix is pre-mixed with diammonium citrate, an oligonucleotide signal enhancer that is reconstituted together with the matrix. The matrix is recrystallized for maximizing S/N and minimizing salt adducts.

### FEATURES:

- Easy reconstitution of 50 mg matrix plus 10 mg enhancer per vial. Reconstitution solution can be added directly to vial.
- Good matrices for oligonucleotides with lengths between 2-50 bases.

### RESEARCH APPLICATIONS:

- MALDI-TOF-MS analysis of proteins/peptides
- Analysis of synthetic polymers

### ORDERING INFORMATION:

#### Ultrapure MBT MALDI Matrix

Catalog Number	Size
CMS-108-50mg	50 mg
CMS-108-100mg	100 mg

### RESEARCH APPLICATIONS:

- MALDI-TOF-MS analysis of phospholipids

### ORDERING INFORMATION:

#### Ultrapure CICC MALDI Matrix

Catalog Number	Size
CMS-109-50mg	50 mg
CMS-109-100mg	100 mg

### RESEARCH APPLICATIONS:

- MALDI-TOF-MS analysis of phospholipids

### ORDERING INFORMATION:

#### Ultrapure FCCA MALDI Matrix

Catalog Number	Size
CMS-110-50mg	50 mg
CMS-110-100mg	100 mg

### RESEARCH APPLICATIONS:

- Analysis of oligonucleotides from molecular biology assays
- Detection of length variations in DNA nucleotide sequence repeats

### ORDERING INFORMATION:

#### Oligonucleotide MALDI Matrix Kit

Catalog Number	Size
CMS-180-1	1 vial
CMS-180-3	3 vials