

# Detergent Selection Guide

[GoldBio Detergents](#)



Detergent	CMC (mM 25°C)	CMC (% w/v)	Micelle Size (Da)	M. W. (g/mol)	Aggregation Number	Type	Function and Application
Deoxycholic Acid Sodium Salt (DOC) <a href="#">D-070</a>	4-8	0.08-0.25	1,200-5,000	414.55	3-12	Anionic	Bile acid used for extraction of membrane proteins, disruption of nuclear membranes and affinity chromatography. Not recommended for use with Mn <sup>2+</sup> .
Glycochenodeoxycholic Acid <a href="#">G-540</a>  Glycochenodeoxycholic Acid Sodium Salt (GCDC) <a href="#">G-590</a>				471.61	2	Anionic	Bile salt used for lipid solubilization. In cell culture, GCDC induces hepatocyte apoptosis and inhibits calcium phosphate precipitation.
Bactenecin <a href="#">B-305</a>				1,483.89		Cationic	Antimicrobial peptide that lyses gram-negative bacteria. Binds lipopolysaccharides (LPS) and disrupts permeability of the inner membrane.
Cetylpyridinium chloride (CPC) <a href="#">C-120</a>	0.12			358.0		Cationic	Disrupts cell membrane and osmoregulation. Shows efficacy in gram-positive, gram-negative bacteria and fungi.
Chlorhexidine <a href="#">C-615</a>				505.45		Cationic	Binds the bacterial wall (chlorhexidine cation binds to negatively charged bacterial wall cells) causing cell lysis. Antifungal agent and low activity antiviral. Highly effective against gram-negative bacteria.

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Chlorhexidine diacetate salt <a href="#">C-250</a>	0.01-0.01			625.55		Cationic	Binds the bacterial wall (chlorhexidine cation binds to negatively charged bacterial wall cells) causing cell lysis. Antifungal agent and low activity antiviral.
Chlorhexidine HCl <a href="#">C-725</a>				578.37		Cationic	Binds the bacterial wall (chlorhexidine cation binds to negatively charged bacterial wall cells) causing cell lysis. Enhanced antibacterial effect when incorporated into human albumin microspheres.
Hexadecylpyridinium bromide <a href="#">H-615</a>				384.44		Cationic	Exhibits bactericidal activity. Used for ion exchange. Reduces surface tension between pathogenic membranes and their environments leading to membrane integrity and osmoregulation disruption and cell lysis. Removes metal ions from solutions. Ion exchange agent that extracts DNA and proteins.
1,2-Dipalmitoyl-rac-glycero-3-phosphocholine <a href="#">D-226</a>				734.04		Cationic	Used in studying biological membranes and liposomes. Also used for formation of reconstituted HDL particles.
Digitonin <a href="#">D-180</a>	< 0.5	0.02-0.03	70,000-75,000	1229.31	60	Non-ionic	Used for receptor solubilization (without denaturation), isolation of mitochondria, cholesterol-Digitonin complex formation, and cell permeabilization. Also used in electrophoresis and cell culture.

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n-Dodecyl- $\beta$ -D-maltoside (DDM) <a href="#">DDM</a>	0.17	0.0087	40,000-76,000	510.63	78-149	Non-ionic	Mild detergent used for extraction of hydrophobic and membrane proteins. Effective for protein preparation of 2D electrophoresis.
Octylglucoside <a href="#">O-110</a>	20-25	0.73	8000	292.38	84	Non-ionic	Mild detergent useful in membrane protein purification. Nondenaturing. Also useful for 2D electrophoresis.
Octylthiogalactoside <a href="#">O-120</a>				308.43		Non-ionic	Inhibit or induce $\beta$ -galactosidase. Used to solubilize membrane proteins or lyse cells.
Octylthioglucoside <a href="#">O-130</a>	4-9	0.2772		308.44		Non-ionic	Cell lysis and protein solubilization. Nondenaturing. Useful for membrane protein crystallization.
Tridecyl $\beta$ -D-maltopyranoside <a href="#">T-290</a>	0.033	0.0017		524.64	105	Non-ionic	In membrane protein crystallization, maintains protein solubility. Also used in micellar electrokinetic chromatography.
CHAPS <a href="#">C-080</a>	6-10	0.49	6,150	614.88	10	Zwitterionic	Nondenaturing. Solubilizes and purifies proteins and breaks protein-protein interactions. Also used in structural studies of transporters, Cryo-EM, 2D electrophoresis and isoelectric focusing (IEF). Easily removed by dialysis.

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Lauroyl-DL-Carnitine Chloride <a href="#">L-105</a>				379.97		Zwitterionic	Facilitates <i>in vitro</i> and <i>in vivo</i> (in mucosal membranes) absorption of hydrophilic compounds.
Non-detergent sulfobetaine (NDSB-201) <a href="#">N-201</a>			No micelles	201.4		Zwitterionic	Zwitterionic, nondetergent sulfobetaine. Useful for purification of proteins and solubilization of protein samples for 2D gel electrophoresis.
Palmitoyl-DL-Carnitine Hydrochloride <a href="#">P-090</a>				436.07			Detergent-like, aides in drug absorption and suppresses calcium signaling. Biofilm inhibitor.
1,3-Dimyristoyl-2-O-benzylglycerol <a href="#">D-535</a>				602.92			Detergent-like compound. Useful in targeting membranes and signal transduction pathways. Promotes weak protein-protein and protein-lipid interactions.
1,2-Hexadecyliden-rac-glycerol-3-phosphocholine <a href="#">H-020</a>				479.63			Used as a detergent to reduce surface tension.
1-O-Hexadecylglycol <a href="#">H-185</a>				286.49			Detergent and reagent used for chemical synthesis.
1-Myristoyl-3-stearoyl-rac-glycerol <a href="#">M-930</a>				568.91			Fatty acid-based detergent.