

#### **CHAPS**

Product Number C 5849

C 9426 Electrophoresis Reagent C 5070 SigmaUltra

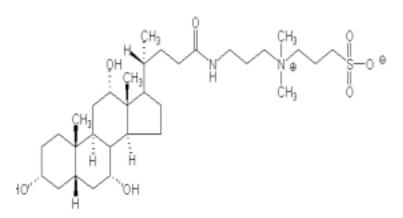
Store at Room Temperature

CAS#: 75621-03-3

Synonyms: 3-[(3-Cholamidopropyl)dimethylammonio]-

1-propanesulfonate

## **Product Description**



Molecular Formula: C<sub>32</sub>H<sub>58</sub>N<sub>2</sub>O<sub>7</sub>S Molecular Weight: 614.9

CHAPS is a non-denaturing, zwitterionic sulfobetaine detergent for solubilizing membrane proteins and breaking protein-protein interactions. 1,2 Commonly used for protein solubilization in isoelectric focusing and two-dimensional electrophoresis, 3,5 especially for non-denaturing (without urea) IEF. CHAPS has been shown to give excellent resolution of some subcellular preparations 6,7 and plant proteins. Concentrations between 1-4% (w/v) are typically used in an IEF gel. A commonly used IEF sample solution consists of 8 M urea, 4% CHAPS, 50-100 mM dithiothreitol (DTT), and 40 mM Tris. Furthermore, its small micellar molecular weight (6,150) and high critical micellar concentration (6 - 10 mM) allow it to be removed from samples by dialysis.

# **ProductInformation**

### **Preparation Instructions**

Soluble in water (50 mg/ml).

## Storage/Stability

As a solid, the material should be stored at room temperature.

#### **Product Profile**

C 5849 is a standard reagent grade CHAPS. C 9426 has been found suitable for use as a solubilizing agent in isoelectric focusing applications. C 5070 is SigmaUltra grade, having been tested to meet low metal content specifications.

#### References

- 1. Pasquali, C., et al., Preparative two-dimensional gel electrophoresis of membrane proteins. Electrophoresis, **18**, 2573-2581 (1997).
- 2. Banerjee, P., et al., Differential solubilization of lipids along with membrane proteins by different classes of detergents. Chem. Phys. Lipids, **77**, 65-78 (1995).
- 3. Hjelmeland, L.M. and Chrambach, A., Electrophoresis and electrofocusing in detergent containing media: a discussion of basic concepts. Electrophoresis, **2**, 1-11 (1981).
- 4. Garfin, D.E., Isoelectric focusing. Methods Enzymol., **182**, 459-477 (1990).
- Schupbach, J., et al., A universal method for twodimensional polyacrylamide gel electrophoresis of membrane proteins using isoelectric focusing on immobilized pH gradients in the first dimension. Anal. Biochem., 196, 337-343 (1991).

- Perdew, G.H., et al., The use of a zwitterionic detergent in two-dimensional gel electrophoresis of trout liver microsomes. Anal. Biochem., 135, 453-455 (1983).
- 7. Fialka, I., et al., Subcellular fractionation of polarized epithelial cells and identification of organelle-specific proteins by two-dimensional gel
- electrophoresis. Electrophoresis, **18**, 2582-2590 (1997).
- 8. Holloway, P.J. and Arundel, P.H., High-resolution two-dimensional electrophoresis of plant proteins. Anal. Biochem., **172**, 8-15 (1988).
- 9. Herbert, B., Advances in protein solubilisation for two-dimensional electrophoresis. Electrophoresis, **20**, 660-663 (1999).

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