

## $\beta$ -Sitosterol

Catalog Number: 14495

### DESCRIPTION

$\beta$ -sitosterol is a naturally occurring sterol lipid that is growing in the bioprocessing space for its ability to improve mRNA transfection efficiency. Inclusion of  $\beta$ -sitosterol in lipid nanoparticle (LNP) formulations has been shown to increase transfection efficiency rates both in cell cultures and in vivo, leading to particular interest in the use of the lipid in mRNA vaccine development. LNPs facilitate the safe and effective delivery of mRNA to target cells, thus enabling therapeutic action. Polysciences' high purity, transfection grade  $\beta$ -sitosterol can be used in conjunction with our other cationic lipid products to provide reliable performance for a variety of bioprocessing applications.

### SPECIFICATIONS

CAS Number	83-46-5
Purity	>99%
Molecular Weight	417.71
Appearance	solid
Storage	2-8°C, protect from light
Linear Formula	C <sub>29</sub> H <sub>50</sub> O
Synonym(s)	beta-sitosterol

### PREPARATION

$\beta$ -sitosterol stock solutions can be prepared by dissolving in an organic solvent of choice.  $\beta$ -sitosterol is soluble in chloroform (20 mg/ml), ethanol (3.8 mg/ml), and slightly soluble in DMSO (< 1 mg/mL). Heating the solvent to 37°C and sonication may improve the solubility. Once dissolved, the stock solution can be stored at -20°C for up to 1 month. Before use, ensure that the stock solution returns to room temperature.

