



## CERTIFICATE OF ANALYSIS

**The product is for research only, not for human use!**

**DESCRIPTION:** Liposomes with Ammonium Gradient  
**CATALOGUE #:** F20204AS  
**BATCH #:** 01021201  
**PRODUCT VOLUME:** 100 mL  
**DATE OF PRODUCTION:** 01/04/2011  
**LIPID COMPOSITION:** HSPC/CHOL/mPEG2000-DSPE (56.3:38.4:5.3 mol/mol)  
**TRANSMEMBRANE GRADIENT:** 250 mM ammonium sulfate

### ANALYTICAL DATA:

**Lipid conc.:** 65.0 ± 1 mM (48.3 ± 0.8 mg/mL) (Stewart assay)

**HSPC:** 29.0 ± 0.5 mg/mL (calculated by weight)

**Cholesterol:** 9.7 ± 0.2 mg/mL (calculated by weight)

**mPEG2000-DSPE:** 9.6 ± 0.2 mg/mL (calculated by weight)

**Particle size (ZetaPALS):** Mean diameter: 84.5 ± 1.0 nm; Half-width: 27.0 ± 2.0 nm; Polydispersity: 0.10 ± 0.01

**Zeta Potential (ZetaPALS):** - 25.5 ± 0.6 mV (measured in 1mM NaCl)

**Bulk solution:** 10% sucrose, pH 6.5 (no buffer)

**FORM/COLOR:** Translucent, free flow liposomes. No visible particles/aggregates with naked eye or under microscope

**STABILITY:** Product is sterile filtered (0.2µm). Free from bacteria growth for at least 3 month for unopened vials stored at 2 – 8 °C. Ammonium gradient may collapse if frozen and thaw. Store at 2-8 °C. Warm to room temperature and mix well before use.

### METHOD OF PRODUCTION:

Lipids were hydrated with 250mM ammonium sulfate solution. Down-size was achieved by extrusion and transmembrane ammonium gradient was established by diafiltration.

**HSPC:** Hydrogenated phosphatidylcholine (Soy)

**CHOL** Cholesterol

**mPEG2000-DSPE:** 18:0 PEG2000 PE:1,2-distearoyl-*sn*-glycero-3-phosphoethanolamine-N-[methoxy(polyethylene glycol)-2000] (ammonium salt)