



NHE (pH_i) Assay Solutions



MSUM Biochemistry &
Biotechnology

150 mM Amiloride in DMSO

- Wear gloves when making and using!
- 0.040g in 1mL DMSO
- Add 5uL to 3mL cuvette for 250uM

BCECF-AM

- Dissolve 1mg of dye in 1mL Dimethyl Sulfoxide (DMSO)
 - Vortex vigorously
 - Pipette into test tube
- Rinse vial with 1mL additional DMSO
- 3mL additional DMSO to test tube and mix thoroughly
- Aliquot into 5 vials

O Na Buffer or Choline Buffer 1 (1 Liter)

- 500mL box water
- 20.25g Choline Chloride (145mM)
- 0.224 KCl (3mM)
- 0.203 MgCl₂ (1mM) (dessicator)
- 0.147g CaCl₂ (1mM) (dessicator)
- 0.901g Glucose (5mM)
- 4.766g HEPES (20mM)
- pH to 7.58 using KOH
- Dilute to 1L using box water

O Na Buffer or Choline Buffer 2 (1 Liter)

- 500mL box water
- 20.25g Choline Chloride (145mM)
- 0.224 KCl (3mM)
- 0.203 MgCl₂ (1mM) (dessicator)
- 0.147g CaCl₂ (1mM) (dessicator)
- 0.901g Glucose (5mM)
- 4.42mL Choline HCO₃ (25mM)
- Dilute to 1L using box water

Na2 Buffer (2 Liters)

- 1L box water
- 16.948g NaCl (145mM) 0.474
- 0.448g KCl (3mM) .224
- 0.406 MgCl₂ (1mM) (dessicator) .203
- 0.0294g CaCl₂ (1mM) (dessicator) .174
- 1.802 Glucose (5mM) .901
- 9.532g HEPES (20mM) 4.766
- pH to 7.58 with 1M NaOH
- Dilute to 2L using box water

Transfer to two 1L bottles

Na3 Buffer (1 Liter)

- 500mL box water
- 8.474g NaCl (145mM)
- 0.224g KCl (3mM)
- 0.203g MgCl₂ (1mM) (dessicator)
- 0.147g CaCl₂ (1mM) (dessicator)
- 0.901g Glucose (5mM)
- 2.100g NaHCO₃ (25mM)
- Do not pH
- Dilute to 1 Liter using box water

Na4 Buffer (1 Liter)

- 500mL box water
- 7.012g NaCl (120mM)
- 0.224g KCl (3mM)
- 0.203g MgCl₂ (1mM) (dessicator)
- 0.147g CaCl₂ (1mM) (dessicator)
- 0.901g Glucose (5mM)
- pH to 7.0
- 2.100g NaHCO₃ (25mM)
- Dilute to 1 Liter using box water