

Pervanadate

Time to prepare

10 minutes

Ingredients

H₂O

HEPES, 20 mM

Na₃VO₄ (in freezer)

Catalase (in freezer)

Hydrogen Peroxide, or H₂O₂, 30%.

Preparation of pervanadate (Huyer G et al., JBC 1997)

1. Take one tube of 100mM sodium orthovanadate Na₃VO₄ (Must be white/colorless. If it shows yellow, means VO₄ forms 12mer, cannot use.)
2. Prepare 20mM HEPES adjust PH to 7.3
3. Take 30% H₂O₂ dilute 10 times with HEPES buffer, 5 ul 30% H₂O₂ + 45 ul HEPES buffer, mix gently.
4. Dilute 3% H₂O₂ 10 times further with HEPES buffer, 5 ul 3% H₂O₂ + 45 ul HEPES buffer, mix gently.
5. Add in 10ul 100mM Na₃VO₄, 940ul H₂O. Mix by gently reversing the vial. This will make up a 1mM pervanadate stock.
6. After 5 minutes, use the tip of pipet to scoop a small amount of catalase, mix in to the pervanadate stock. This will result in a burst of O₂ bubbles. Open the lid of the tube to release the air pressure.
7. The pervanadate is good for several hours (<24 hours).