

## Actin Polymerization Buffer

Cat. # BSA02

Upon arrival store at 4°C (desiccated)

See datasheet for storage after reconstitution

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### Material

Actin Polymerization Buffer is supplied as a white lyophilized powder.

### Storage and Reconstitution

Lyophilized Actin Polymerization Buffer is stable at 4°C desiccated (<10% humidity) for 1 year.

Each tube of Actin Polymerization Buffer should be resuspended in 2 ml of 100 mM Tris HCl pH 7.5 to give a 10X strength buffer; 100 mM Tris HCl, 20 mM MgCl<sub>2</sub>, 500 mM KCl, 10 mM ATP, 50 mM guanidine carbonate pH 7.5. The reconstituted buffer should be aliquoted into experiment sized volumes, snap frozen in liquid nitrogen and stored at -70°C.

### Uses

A frozen aliquot of the Actin Polymerization Buffer should be thawed at room temperature and placed on ice immediately after thawing. The buffer contains ATP which is a labile component. Hence, the buffer should be used within 1-2 h of thawing and freeze/thaw cycles should be avoided.

Tris HCl is present in the buffer to maintain a pH of 7.5. Magnesium chloride (2 mM final concentration), potassium chloride (50 mM final concentration) and ATP (1 mM final concentration) are required for actin polymerization. Guanidine carbonate is present as a stabilizer for ATP and is not required for actin polymerization.

Used at 1X final concentration as an *in vitro* buffer for monomer actin polymerization from a wide range of species.

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