

## DATASHEET

### Actin

From bovine cardiac muscle  
( $\alpha$ -cardiac actin, >99% purity)

For Use in Research Only.  
Not for Use in Diagnostic Processes.

Quantity: 0.5mg  
Cat. #: 8201-01

### Product Description

G-actin from bovine cardiac muscle is a single chain polypeptide with a molecular weight of 42kD consisting of 375 amino acids. G-actin (0.5mg) is supplied as lyophilized powder containing 2mM Tris-Cl pH 8.2, 0.4mM ATP, 0.1mM DTT, 0.08mM CaCl<sub>2</sub> and 0.2% disaccharides, when reconstituted with 0.5ml H<sub>2</sub>O. For dilution of G-actin or exchange of ligand buffer into actin compatible buffer, MonoMix (Cat no.: 5100-0\*) may be used. In the absence of nucleators, the polymerization of G-actin is initiated by PolyMix (Cat no.: 5000-0\*).

### Product Handling

#### Preparation of a stock solution

Add e.g. 0.5ml of H<sub>2</sub>O to the tube with G-actin to obtain a stock solution of 1mg/ml (23.8 $\mu$ M). A stock concentration of 4mg/ml (95.2 $\mu$ M) should not be exceeded to avoid spontaneous polymerization. Allow the G-actin solution to rehydrate for 2min at room temperature and dissolve using a pipette. If G-actin is used for polymerization with PolyMix, we recommend to prepare a G-actin stock of 1.1mg/ml (26.1 $\mu$ M), as addition of PolyMix will dilute the G-actin/F-actin stock to a final concentration of 1mg/ml (23.8 $\mu$ M).

The actin stock is ready for use. For critical assays we recommend gel filtration or dialysis against 50-100vol. of MonoMix O/N and subsequent centrifugation at 100.000xg for 60min to remove any aggregates from freeze-drying. For less critical assays the actin working stock may be pre-spun (15.000xg, 10min).

### Product Storage and Stability

Freeze-dried G-actin stored at -70°C upon arrival will be stable in performance for at least 6 months from the date of purchase. Solubilized G-actin is kept on ice and should be used within 1 week. Polymerized actin (F-actin) kept on ice is stable for at least 2 weeks. Avoid refreezing of G-actin. Never refreeze F-actin solutions.

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