

## DATASHEET

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### Smooth muscle actin

#### Smooth muscle actin

From chicken gizzard  
( $\gamma$ -actin, 99% purity)

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

Quantity: 1x1.0mg  
Cat. #: 8106-02

#### Product Description

Smooth muscle actin from gizzard predominantly contains ~80%  $\gamma$ - and ~20%  $\alpha$ -smooth muscle actin with a molecular weight of 42kD (374 amino acids). Smooth-muscle actin is supplied as lyophilized powder containing 2mM Tris-Cl pH 8.2, 3mM ATP, 0.5mM DTT, 0.1mM CaCl<sub>2</sub> and 0.2% disaccharides, when reconstituted with 1.0ml H<sub>2</sub>O. For dilution of G-actin or exchange of ligand buffer into actin compatible buffer MonoMix (Cat. #: 5100-0\*) may be used. In the absence of nucleators, the polymerization of G-actin is initiated by PolyMix (Cat.#: 5000-0\*).

#### Product Handling

##### Preparation of a stock solution

Add e.g. 1.0ml H<sub>2</sub>O to the tube with 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 (Cat no.: 5000-0\*), we recommend preparation of a G-actin stock of 1.1mg/ml (26.2 $\mu$ M), since 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 dialysis of actin 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 filtered (0.2-0.45 $\mu$ m) or pre-spun (15.000xg, 10min).

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#### Product Storage and Stability

Smooth muscle actin stored at  $-70^{\circ}\text{C}$  upon arrival will be stable in performance for at least 6 months from the date of purchase. Solubilized actin is kept on ice and should be used within 1 week. Avoid refreezing.

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