

## DATASHEET

### Biotin Actin

From bovine cardiac muscle  
( $\alpha$ -cardiac actin)

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

Quantity: 100 $\mu$ g  
Cat.#: 8209-01

#### Product Description

G-actin from bovine cardiac muscle is a single chain polypeptide with a molecular weight of 42kD consisting of 375 amino acids. Biotin-Actin is chemically modified G-actin by esterification with Biotin. Choosing a biotinylation using a  $\sim$ 20 Å spacer, renders the Biotin group to be readily available for antibody detection. Biotin-Actin is >99% pure according to scanning densitometry from Coomassie Blue G-250 stained PAA-Gels.

Biotin Actin is validated to polymerize in the presence of 100mM KCl, 2mM MgCl<sub>2</sub>. Immunoblotting using ExtrAvidin® alkaline phosphatase (Sigma, Cat. #: E2636) 1:10,000 with JetStain (Cat. #: 6022) detected 1ng of Biotin Actin.

Biotin-Actin is supplied as a lyophilized powder containing 2mM Tris-Cl pH 8.2, 0.4mM ATP and 0.1mM DTT, 1mM NaN<sub>3</sub>, 0.2mM CaCl<sub>2</sub> and 0.5% disaccharides when reconstituted with H<sub>2</sub>O to a 1mg/ml (23.8 $\mu$ M) solution.

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 can be initiated by PolyMix (Cat no.: 5000-0\*).

#### Product Handling

##### Preparation of a working stock

Example: Add 100 $\mu$ l of H<sub>2</sub>O to the tube containing 100 $\mu$ g Biotin-Actin to obtain a working stock of 1mg/ml (23.8 $\mu$ M). Allow the G-actin solution to rehydrate for 5 minutes at room temperature and vortex mildly or and dissolve by pipetting up and down. Leave at RT for another 5 min for rehydration. The final concentration of Biotin G-actin should not exceed 3mg/ml. For standard applications the Biotin-Actin working stock is now ready to use.

For critical assays the working stock should be applied to a gel filtration column or dialyzed (100vol. of MonoMix, O/N) followed by high-speed centrifugation. For less critical assays the actin working stock may be pre-spun (15.000rpm, 10min).

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