

PURE BIOSCIENCE, INC.  
Form 424B3  
December 15, 2011

Filed Pursuant to Rule 424(b)(3)  
Registration No. 333 – 158555  
Registration No. 333-173826

PROSPECTUS SUPPLEMENT  
(to the prospectus dated May 5, 2009)

Up to \$7,000,000 in Shares of Common Stock

This prospectus supplement amends and supplements the prospectus supplement dated April 29, 2011 and its accompanying prospectus dated May 5, 2009, related to our Sales Agreement with C.K. Cooper & Company, Inc. (“CKCC”), dated April 29, 2011 (the “Sales Agreement”), pursuant to which CKCC has acted as our agent to sell up to \$7,000,000 in aggregate amount of shares of our common stock, par value \$0.01 per share (“Common Stock”), in “at the market” offerings as defined in Rule 415 of the Securities Act of 1933, as amended. This prospectus supplement should be read together with the prospectus and prospectus supplement to which it relates.

Effective December 14, 2011, we terminated the Sales Agreement and, pursuant to such termination, there will be no future sales of our Common Stock under the Sales Agreement. As of the effective date of the termination of the Sales Agreement, we had sold 3,973,664 shares of our Common Stock under the Sales Agreement for aggregate gross proceeds of \$4,326,000, less aggregate commissions of \$195,000 to CKCC and other fees and expenses, for aggregate net proceeds to us of approximately \$4,130,000.

As of December 14, 2011, the maximum aggregate gross proceeds from potential future sales of our Common Stock available under our Registration Statement on Form S-3 (Registration No. 333-158555), together with our Registration Statement on Form S-3MEF (Registration No. 333-173826) was \$2,674,340.

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement and the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

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The date of this prospectus supplement is December 15, 2011.

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