

ADVANCED CELL TECHNOLOGY, INC.

Form 424B3

January 03, 2011

SUPPLEMENT No. 1

DATED January 3, 2011

(To Prospectus dated May 20, 2010)

Rule 424(b)(3)

Registration No. 333- 166719

ADVANCED CELL TECHNOLOGY, INC.

This prospectus supplement (“Supplement”) modifies, supersedes and supplements information contained in, and should be read in conjunction with, that certain prospectus, dated May 20, 2010 (“Prospectus”), of Advanced Cell Technology, Inc. (“Company”). This Supplement is not complete without, and may not be delivered or used except in connection with, the original Prospectus.

The information attached to this Supplement modifies and supersedes, in part, the information in the Prospectus. Any information that is modified or superseded in the Prospectus shall not be deemed to constitute a part of the Prospectus, except as modified or superseded by this Supplement.

We may amend or supplement the Prospectus from time to time by filing amendments or supplements as required. You should read the entire Prospectus and any amendments or supplements carefully before you make an investment decision.

See “Risk Factors” beginning on page 9 of the prospectus dated May 20, 2010, for risk factors and information you should consider before you purchase shares.

SELLING SHAREHOLDERS

The information appearing in the table below with respect to the selling securityholders named herein supersedes the information with respect to selling securityholders in the table appearing under the heading “Selling Shareholders” in the Prospectus.

Name of Selling Stockholder	Beneficial Ownership Before the Offering	Share of Common Stock Included in Prospectus	Beneficial Ownership After the Offering	Percentage of Ownership After Completion of Offering
Option Opportunities Corp.	2,698,260	1,349,130 (1)	1,349,130	*
Midsummer Small Cap Master, Ltd.	1,291,740	645,870 (1)	645,870	*

* Less than 1%.

(1) Represents shares of common stock issuable upon exercise of Class A Warrants purchased by Midsummer Investment, Ltd. at the second closing under the Subscription Agreement. These Class A Warrants were assigned to the selling stockholder by Midsummer Investment, Ltd. Midsummer Investment Ltd. is no longer offering any shares under the Prospectus.