

**BIO-PATH HOLDINGS, INC.  
PROXY**

**Proxy Solicited by the Board of Directors for the Annual Meeting of Shareholders to be Held July 15, 2009**

The undersigned hereby appoints Peter H. Nielsen and Douglas P. Morris or either one of them with full power of substitution, proxies to vote at the Annual Meeting of Shareholders of Bio-Path Holdings, Inc. (the "Company") to be held on July 15, 2009 at 5:00 p.m., local time, and at any adjournment thereof, hereby revoking any proxies heretofore given, to vote all shares of Common Stock of the Company held or owned by the undersigned as directed on the reverse side of this proxy card, and in their discretion upon such other matters as may come before the meeting.

1. To elect as directors, to hold office until the 2010 Annual Meeting of Shareholders and until their successors are elected and qualified, the nominees listed below:

Peter H. Nielsen  
Douglas P. Morris  
Thomas Garrison, MD  
Gillian Ivers-Read, BSc

_____ FOR All nominees listed (except as indicated below)	_____ WITHHOLD AUTHORITY to vote (as to all nominees)
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To withhold authority to vote for any individual nominee, write the nominee's name on the line provided below.

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2. To ratify the appointment of Mantyla, McReynolds, LLC as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2009.

\_\_\_\_\_ For \_\_\_\_\_ Against \_\_\_\_\_ Abstain

The Board recommends that you vote FOR the above proposals. This proxy, when properly executed, will be voted in the manner directed above. WHEN NO CHOICE IS INDICATED, THIS PROXY WILL BE VOTED FOR THE ABOVE PROPOSALS. This proxy may be revoked by the undersigned at any time, prior to the time it is voted by any of the means described in the accompanying proxy statement.

\_\_\_\_\_  
Print Name on Share Certificate

\_\_\_\_\_  
Signature of Shareholder

\_\_\_\_\_  
Print Name on Share Certificate

\_\_\_\_\_  
Signature of Shareholder

Date and sign exactly as name(s) appear(s) on this proxy. If signing for estates, trusts, corporations or other entities, title or capacity should be stated. If shares are held jointly, each holder should sign.

Date: \_\_\_\_\_, \_\_\_\_

**PLEASE COMPLETE, DATE AND SIGN THIS PROXY  
AND RETURN IT PROMPTLY IN THE ENCLOSED ENVELOPE.**