

**PROSPECTUS SUPPLEMENT**

(To Prospectus and Prospectus Supplement dated May 21, 2024)



**Predictive  
Oncology®**

**Up to \$1,491,000  
Common Stock**

This prospectus supplement (the “Prospectus Supplement”) amends and supplements certain information in the prospectus, dated May 21, 2024, filed with the Securities and Exchange Commission as part of our registration statement on Form S-3 (333-279123), as supplemented by our prospectus supplement, dated May 21, 2024 (together, the “ATM Prospectus”), relating to the offer and sale of shares of our common stock from time to time pursuant to the terms of the ATM Sales Agreement, dated May 3, 2024 (the “Agreement”), with H.C. Wainwright & Co., LLC (“Wainwright”) as sales agent. During the twelve calendar months prior to, and including, the date hereof, we have sold an aggregate of 1,607,100 shares of our common stock for aggregate gross proceeds of approximately \$3,696,000 through Wainwright under the Agreement. This Prospectus Supplement should be read in conjunction with the ATM Prospectus, and is qualified by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the ATM Prospectus. This Prospectus Supplement is not complete without, and may only be delivered or utilized in connection with, the ATM Prospectus, and any future amendments or supplements thereto.

As of the date of this Prospectus Supplement, the aggregate market value of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is \$17,195,985, which was calculated based on 8,818,454 shares of our outstanding common stock held by non-affiliates and a price of \$1.95 per share, the closing price of our common stock on February 18, 2025, which is the highest closing sale price of our common stock on the Nasdaq Capital Market within the prior 60 days. As of the date of this Prospectus Supplement, we have sold securities with an aggregate market value of approximately \$4,240,852 pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to, and including, the date of this Prospectus Supplement. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in public primary offerings on Form S-3 with a value exceeding one-third of our public float (as defined by General Instruction I.B.6) in any 12 calendar month period so long as our public float remains below \$75.0 million.

We are filing this Prospectus Supplement to amend the ATM Prospectus to update the maximum amount of shares that we are eligible to sell, and to specify the value of common stock we would be permitted to sell in any 12 calendar month period under General Instruction I.B.6. We may currently only offer and sell shares of our common stock having an aggregate offering price of up to \$1,491,000 pursuant to this Prospectus Supplement in accordance with the terms of the Agreement, and as a result of the limitations set forth in General Instruction I.B.6, the maximum amount of shares we are eligible to sell in any 12 calendar month period as a result of these limitations is approximately \$1,491,000. However, in the event that our public float increases or decreases, we may sell securities in public primary offerings on Form S-3 with a value up to one-third of our public float, in each case calculated pursuant to General Instruction I.B.6 and subject to the terms of the Agreement. In the event that our public float increases above \$75.0 million, we will no longer be subject to the limits in General Instruction I.B.6 of Form S-3. If our public float increases such that we may sell additional amounts under the Agreement and the registration statement of which this Prospectus Supplement and the ATM Prospectus are a part, we will file another prospectus supplement prior to making additional sales.

Our common stock trades on the Nasdaq Capital Market under the symbol “POAI.” On April 17, 2025, the last reported sale price of our common stock on the Nasdaq Capital Market was \$0.9355 per share.

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**INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE “RISK FACTORS” ON PAGE S-9 OF THE ATM PROSPECTUS AND IN THE DOCUMENTS INCORPORATED BY REFERENCE IN THE REGISTRATION STATEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR COMMON STOCK.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.**

**H.C. Wainright & Co.**

**The date of this prospectus supplement is April 18, 2025.**