

**The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.**

<http://www.sec.gov/Archives/edgar/data/1396990/000104746910005249/a2198352zs-1.htm>

**Subject to Completion. Dated May 13, 2010.**

## Shares

### Common Stock

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This is an initial public offering of shares of common stock of Ikaria, Inc. We are offering shares of our common stock.

Prior to this offering, there has been no public market for our common stock. It is currently estimated that the initial public offering price will be between \$            and \$            per share. We have applied to have our common stock listed on the NASDAQ Global Market under the symbol "IKAR".

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**See "Risk Factors" beginning on page 13 to read about factors you should consider before buying shares of our common stock.**

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	<u>Price to Public</u>	<u>Underwriting Discounts and Commissions</u>	<u>Proceeds to Ikaria, Inc.</u>
Per Share	\$	\$	\$
Total	\$	\$	\$

To the extent that the underwriters sell more than            shares of common stock, the underwriters have the option to purchase up to an additional            shares from selling stockholders at the initial public offering price less the underwriting discount. Ikaria, Inc. will not receive any proceeds from the sale of the shares by the selling stockholders.

The underwriters expect to deliver the shares against payment in New York, New York on            , 2010.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

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**Goldman, Sachs & Co.**

**Morgan Stanley**

**Credit Suisse**

**Lazard Capital Markets**

**Cowen and Company**

**Wedbush PacGrow Life Sciences**

Prospectus dated , 2010.

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