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(doi:10.1517/13543784.16.12.1895)**Antiangiogenic agents for the treatment of glioblastoma***Elizabeth R Gerstner¹ MD, Dan G Duda² PhD, Emmanuelle di Tomaso² PhD, Greg Sorensen³ MD, Rakesh K Jain² PhD & Tracy T Batchelor^{†1,2,4} MD*¹Massachusetts General Hospital Cancer Center and Harvard Medical School, Department of Neurology, Boston, Massachusetts, USA²Massachusetts General Hospital Cancer Center and Harvard Medical School, Department of Radiation Oncology, Boston, Massachusetts, USA³Massachusetts General Hospital Cancer Center and Harvard Medical School, Department of Radiology, Boston, Massachusetts, USA^{4†}Executive Director, Massachusetts General Hospital, Stephen E and Catherine Pappas Center for Neuro-Oncology, Yawkey 9E, 55 Fruit Street, Boston, Massachusetts, MA 02114, USA +1 617 643 1938; +1 617 643 2591; tbatchelor@partners.org† *Author for correspondence*

Glioblastomas are highly vascularized and, therefore, antiangiogenic agents are increasingly being explored as therapeutic options. This review summarizes the present data on antiangiogenic agents in glioblastoma treatment. The angiogenic pathway in gliomas and the proposed mechanisms of antiangiogenic agents are reviewed briefly, and details of the drugs in clinical trial are provided. In addition to their effects on blood vessels, these agents also have potent antiedema effects that may have therapeutic benefit. The review concludes with a discussion of the role of biomarkers and neuroimaging in the assessment of tumor response. Although preliminary studies of these drugs in glioblastoma have been promising, larger prospective trials that include survival as an end point will be required to determine the ultimate utility of this class of agents. It seems likely that a combination of antiangiogenesis agents with other cytotoxic therapies will be required to achieve maximal efficacy.

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Keywords:

- antiangiogenesis
- glioma
- vascular normalization
- vasogenic edema
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