Interleukin 13 receptor alpha 2 (IL-13RA2), EphA2, and EphA3 receptors are overexpressed in most patients with GBM, but not in normal brain, and also in spontaneous canine high-grade gliomas like GBM, an excellent translational model of GBM. These receptors and also the EphB2 receptor are overexpressed and are functional in several GBM compartments involved in tumor progression and/or resistance to therapies. We pursue the novel idea of targeting all four receptors with one targeted cytotoxic compound (QUAD-CTX). We are constructing a molecularly targeted anti-GBM drug that (i) may not require patient prescreening, (ii) will attack most tumor compartments known to be pathobiologically important, and (iii) performs these functions in one pharmaceutical entity, so it will be suitable for monotherapy. We thus wish to take advantage of a unique opportunity to produce an off-the-shelf, highly specific, molecularly targeted drug candidate suitable to treat perhaps even all patients with GBM. We envision that this “molecular resection” will translate into clear-cut durable responses in patients suffering from this dreadful disease [1)].

1)
Debinski W, Priebe W, Tatter SB. Maximizing Local Access to Therapeutic Deliveries in Glioblastoma. Part I: Targeted Cytotoxic Therapy. In: De Vleeschouwer S, editor. Glioblastoma [Internet]. Brisbane (AU): Codon Publications; 2017 Sep 27. Chapter 17. Available from http://www.ncbi.nlm.nih.gov/books/NBK469992/ PubMed PMID: 29251859.