causes a noncompetitive inhibition of the NMDA receptor.[2,3] Propofol is thought to modulate the NMDA receptor at a domain other than the agonist recognition site and, hence, would not influence the affinity of receptor for agonist. Accordingly, *in vitro* studies predict that propofol would reduce the incidence of NMDA-induced seizure activity without affecting the calculated EC_{50}.

Bansinath *et al.* also observed that propofol increased the incidence of kainate- and quisqualate-induced seizures. Propofol failed to produce a consistent effect on kainate-evoked responses recorded from cultured mouse hippocampal neurons, possibly because of the variety of kainate receptor subunits present in native neurons.[2] However, examination of specific subtypes of non-NMDA receptors expressed in *Xenopus* oocytes demonstrated that propofol enhanced the currents recorded from the α_1 (GluR1) subfamily of AMPA/quisqualate-sensitive channels.[3] The effects of propofol on non-NMDA receptors are highly dependent on the subunit examined. Furthermore, kainate activates the AMPA/quisqualate receptors, whereas quisqualate activates the metabotropic receptor, a G-protein coupled glutamate receptor. These chemoconvulsants are not sufficiently selective to make inferences regarding their behavioral properties and specific receptor populations.

Because of the enormous complexity of neuronal circuitry, it is generally difficult to link the clinical effects of anesthetics to specific receptors. However, the data presented by Bansinath *et al.* are consistent with propofol's demonstrated ability to inhibit the NMDA receptor and enhance certain subtypes of non-NMDA glutamate receptors.

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In Reply:—We thank Orser and MacDonald for their opinion, which highlights the reliability of our results on modulation of glutamate receptor subtypes by propofol.[1] A similar interpretation of our data on modulation of NMDA-induced convulsions by propofol was made by one of the reviewers of the manuscript. The data suggest some inhibitory action of propofol against NMDA-induced convulsions. We deemed it appropriate to be conservative in our inference on data that were not statistically significant, especially because these results were from an *in vivo* paradigm and thus vulnerable to modulation by multiple factors. On the contrary, the *in vitro* results have the advantage of being immune to the impact of multiple factors working in concert. Hence, it is reassuring to note that some *in vitro* data,[2,3] published after our manuscript was processed, bolster our *in vivo* findings.

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