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Reply to the Letter to the Editor

Re: Absence of Borna virus in human blood

Sir,

Establishment of diagnostic tests for the detection of pathogen-specific antigens or antibodies in human blood by ELISA necessitates thorough and responsible validation to avoid erroneous conclusions through false-positive or false-negative results. Unfortunately, neither the original work nor the commentary to our study attempted to confirm that the sandwich ELISA described by Bode et al. (2001) detects indeed the physical presence of BDV antigen in human blood. Thus, in the absence of such data, the letter by Flower and Ludwig has in our view a misleading title. In contrast, our successful one-step immunoaffinity purification of viral antigens from the complex protein mixture of a cell lysate is a strong indicator for the potency of our experimental approach. Nevertheless, no viral antigens were detected in several ELISA-reactive human plasma samples, even with a sensitive immunoblot procedure whose limit of detection had been assessed with recombinant protein. Flower and Ludwig criticized that we did not include human serum known to be positive for BDV RNA. This is indeed desirable, but several recent studies have questioned the existence of such samples because earlier findings on BDV-positive samples from human material were most likely the consequence of laboratory contaminations (Durrwald et al., 2006; Hofer et al., 2006; Schwemmle et al., 1999). Finally, Flower and Ludwig cite a thesis describing the presence of human anti-mouse IgG antibodies in 10% of Australian sera. Due to the sandwich set-up of the test by Bode et al. (2001), such cross-reactive antibodies might well be responsible for false-positive results, supporting our conclusion that the scrutinized test does not allow an unambiguous detection of BDV antigen.

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