Latent membrane protein 2A (LMP2A) of Epstein-Barr virus (EBV) shares protein motifs with the B-cell receptor that play a role in B-cell receptor signalling and has been shown to mimic an activated B-cell receptor by providing a survival signal for mature B cells in transgenic mice. Conversely, LMP2A has been reported not to support but to inhibit B-cell receptor signalling with respect to virus reactivation and to block lytic virus induction after anti-Ig treatment of EBV-infected B cells. To solve this apparent paradox, the role of LMP2A in lytic-cycle induction was re-examined in B cells conditionally immortalized by EBV. It was shown that, in the absence of other stimuli, LMP2A expression alone could lead to induction of the virus lytic cycle. Similarly to B-cell receptor stimulation by anti-Ig treatment, this LMP2A-mediated reactivation was dependent on the mitogen-activated protein kinase pathway and could be inhibited by the viral LMP1. Our data reinforce the notion that LMP2A is a functional homologue of the B-cell receptor, not only with respect to B-cell survival but also with respect to regulation of the lytic cycle.