A small number of publications have documented expression of CEACAM1 in lymphoma and EBV-transformed B cell lines, as well as moderate levels of expression in resting peripheral B lymphocytes. Our results suggest the upregulation of CEACAM1 with EBV-infection or transformation. While there are a number of reasons to believe CEACAM1 has important signaling function in B cells, the activity of CEACAM1 in this cellular context remains unclear. In humans, CEACAM1 is expressed in a number of isoforms. In the human B cell lines and peripheral B cells examined, we are able to detect expression of several of these isoforms by RTPCR and/or by western blot. Western blot analysis shows two distinct lower molecular weight bands that differ between the NP40 lysis soluble and particulate fractions. We believe these bands correspond to the CEACAM1-1 domain isoform. The 1-domain isoform is called this because it has one extracellular domain, the N-domain. It appears to be the major CEACAM1 variant expressed in resting human B lymphocytes. We have identified expression of this isoform in a unique membrane microdomain with CD81, however, the role of this isoform remains uncertain. Understanding the role of CEACAM1, particularly the functions of the individual splice variants, in B cells will shed light on the cellular responses to EBV infection, on lymphomagenesis, and on lymphocyte activation.