Supplementary Fig. 3  Induction of cíc mRNA by light in the mouse SCN. (a) Representative in situ hybridization to coronal section of mouse brain showing cíc mRNA in the SCN at Zeitgeber (ZT) 20 without light (left) or at the end of a 2-h light pulse (250 Lux). Like cíc mRNA showing a circadian cycle, the cíc mRNA induced by light was essentially restricted to the dorsal part of the SCN. The number of SCN cells showing light-induction of cíc mRNA under these conditions is comparable to or somewhat less than that observed at the peak of circadian expression in constant darkness. (b) Merged confocal images of double-label fluorescence in situ hybridizations of SCN cells showing light-induced cíc mRNA (red) and avp mRNA (left and middle, green) or vip mRNA (right, green). Nuclear counterstain (blue) shows the location of all cells in the field. Light-induced cíc mRNA did not co-localize with vip mRNA (right), a marker for the retinorecipient ventral division of the SCN. Light-induced cíc mRNA could be observed to co-localize with avp mRNA (left), but in many cases no avp mRNA could be detected in cells showing light induction of cíc (middle). This finding could indicate that many of the cells with light-induced cíc do not express avp, thereby differing from the cells with a circadian cycle of cíc expression. More likely, the finding is a consequence of the circadian cycle of avp expression itself (c), which, like cíc, is at its trough during the night and can therefore be detected in fewer cells.