**Supplementary Figure 9. Validation of classifier predictions.** Activity of individual cCRMs in *twi*:CD2 cells was predicted by naive Bayes classifier (see text) and tested by conventional reporter assay. Individual cCRMs shown here were not detected in the *twi*:CD2 eFS experiment and therefore did not contribute to the training set for the classifier; several of them were detected in the *Mef2-I-ED5*:CD2 and/or *duf*:CD2 eFS experiments, and these appear also in Supplementary Figure 5. Images shown are Maximum Intensity Projections except where noted by asterisk (see Online Methods and Supplementary Note 2). Co-expression of GFP with CD2 (Supplementary Table 5) was evaluated in individual optical sections with the annotator being blind to the predicted activity of the cCRMs. Co-expression is observed as GFP and CD2 being present in the same cells, since the GFP in these embryos is nuclear, while CD2 is expressed on the cell surface (see Online Methods and Supplementary Note 2).
slou_Up_5  predicted positive  observed negative
CG15319_down_7  predicted positive  observed negative
ChIPCRM2613  predicted positive  observed positive
ChIPCRM5792  predicted positive  observed positive
jumu_a_4*  predicted positive  observed positive
ChIPCRM5617  predicted positive  observed positive
noc_6  predicted positive  observed negative
ChIPCRM5819  predicted positive  observed positive
hth_3  predicted positive  observed positive
Mef2_29  predicted positive  observed negative

GFP  CD2  merge
mud_c_d* predicted negative observed negative

Sur_39 predicted negative observed negative

ChIPCRM6084 predicted negative observed positive

ChIPCRM6902 predicted negative observed positive

ChIPCRM2000 predicted negative observed positive

CG13830_19 predicted negative observed negative

No expression (no image)

ChIPCRM6679 predicted negative observed negative

jumu_a_3 predicted negative observed positive

CG2875_7* predicted negative observed negative

sns_6 predicted negative observed negative
<table>
<thead>
<tr>
<th>Gene</th>
<th>Predicted</th>
<th>Observed</th>
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<tbody>
<tr>
<td>ChIPCRM4505</td>
<td>negative</td>
<td>negative</td>
</tr>
<tr>
<td>slou_Dn_1</td>
<td>negative</td>
<td>negative</td>
</tr>
<tr>
<td>nau_Dn_2</td>
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<tr>
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<tr>
<td>CBP4280*</td>
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<tr>
<td>ChIPCRM2929*</td>
<td>negative</td>
<td>positive</td>
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<tr>
<td>Jupiter_16</td>
<td>negative</td>
<td>positive</td>
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</tbody>
</table>
pnut_13
predicted negative
observed positive

slou_Up_1
predicted negative
observed negative

CG15319_down_12
predicted negative
observed negative

G-oalpha47A_5
predicted negative
observed negative

TyrR_33
predicted negative
observed negative

ChIPCRM5857
predicted negative
observed positive

rgr_Dn
predicted negative
observed negative

ChIPCRM4231
predicted negative
observed negative

ChIPCRM3430
predicted negative
observed positive

No expression
(no image)