

**Table S1. Subset of differentially expressed genes from the microarray analysis**

| GA #       | Gene                   | PMo/AD | PMo/V+CG | Validation                      |
|------------|------------------------|--------|----------|---------------------------------|
| U68059.1   | Frzb-1                 | 16.92  | 17.98    | qRT-PCR and in situ             |
| BC056001.1 | vgl-2                  | 16.39  | 13.32    | qRT-PCR and in situ             |
| AF297713.1 | Pitx-3                 | 6.78   | 11.15    | qRT-PCR and in situ             |
| BC059995.1 | CPN                    | 11.41  | 9.13     | qRT-PCR and in situ             |
| AF279254.1 | Six1                   | 3.87   | 3.69     | qRT-PCR and in situ             |
| X60099.1   | Xanf-1                 | 7.70   | 14.85    | qRT-PCR (Zaraisky et al., 1995) |
| U28370.1   | Xanf-2                 | 8.47   | 11.23    | qRT-PCR (Mathers et al., 1995)  |
| BJ056432   | goosecoid              | 5.15   | 5.52     | qRT-PCR (De Robertis, 2004)     |
| BC083002.1 | Kininogen precursor    | 6.29   | 6.91     | qRT-PCR                         |
| M23238.1   | PDGFA                  | 5.30   | 4.43     | qRT-PCR                         |
| BJ092583   | adlican                | 3.62   | 3.75     | qRT-PCR                         |
| AW460602   | amino acid transporter | 4.07   | 3.22     | qRT-PCR                         |
| BJ051600   | GAC1                   | 4.75   | 3.76     | qRT-PCR                         |

List of genes enriched in the presumptive primary mouth region, identified in the microarray screen (see Materials and methods). All genes are expressed at least threefold more highly in the presumptive primary mouth (PMo) than in the anterior dorsal (AD) and ventral region (CG+V). The method of validation is indicated: qRT-PCR, in situ hybridization or expression previously described. Primer sequences are available on request.