Wild-type plant tissues (Ler background) for in situ hybridization were prepared as previously described (Siegfried et al., 1999; Otsuga et al., 2001). Probes for each of the family members were prepared using the PCR Roche kit and primers engineered with T7 or Sp6 promoter sequences added to one end of the probe fragment. The nucleotide regions of each gene (numbered relative to the ATG) included in the probes are as follows: REV, 680-2529; PHB, 1285-2554; PHV, 1273-2521; CNA, 1230-2511; and ATHB8, 1243-2502. The probe hybridizations were carried out as previously described (Klucher et al., 1996; Vielle-Calzada et al., 1999), but the color reactions were carried out in the presence of 10% polyvinyl alcohol and the tissues were mounted using Aquamount (PolyScience, CA). A control experiment was carried out to determine the specificity of the probes. In vitro-transcribed sense RNA for each gene was spotted onto membranes and probed with each HD-Zip III probe using hybridization and washing conditions mimicking those of the in situ hybridizations. Each probe was found to hybridize at least 10,000-fold better to the corresponding gene's transcript than to any of the other transcripts (data not shown).