MK000079=Sp1a/1503

Marker: Sp1a/1503
Type: Dominant PCR
Description:
Reference: Euphytica 127: 353–365, 2002. PCR-based markers to differentiate the mitochondrial genomes of
petaloid and male fertile carrot (Daucus carota L.) Inga C. Bach, Annette Olesen & Philipp W. Simon,
Primers: atp8-d1 (d)................................5'-CCGGTGTATCCTATATGTAC-3'
               nad6-u1 (h)..............................5'-CTTTGGGTTGGTAGTAATGGAATG-3'
PCR Reaction: 20 µl: [0.4 µg/ml DNA=8 ng; 0.4 µM each primer=8 pMol each; 0.025 U/µl Taq=0.5 U;
    1.5 mM $MgCl_2$=30 nMol; 0.1 mM each dNTP=2 nMol]
PCR Program: 94°C 2:00; 35 cycles of {94°C 1:00; 58°C 1:00; 72°C 2:30}; 72°C 7:00
Screening Method: Product size by agarose gel
Product Sizes: 1503 bp in Sp cytoplasm; no product in N cytoplasm
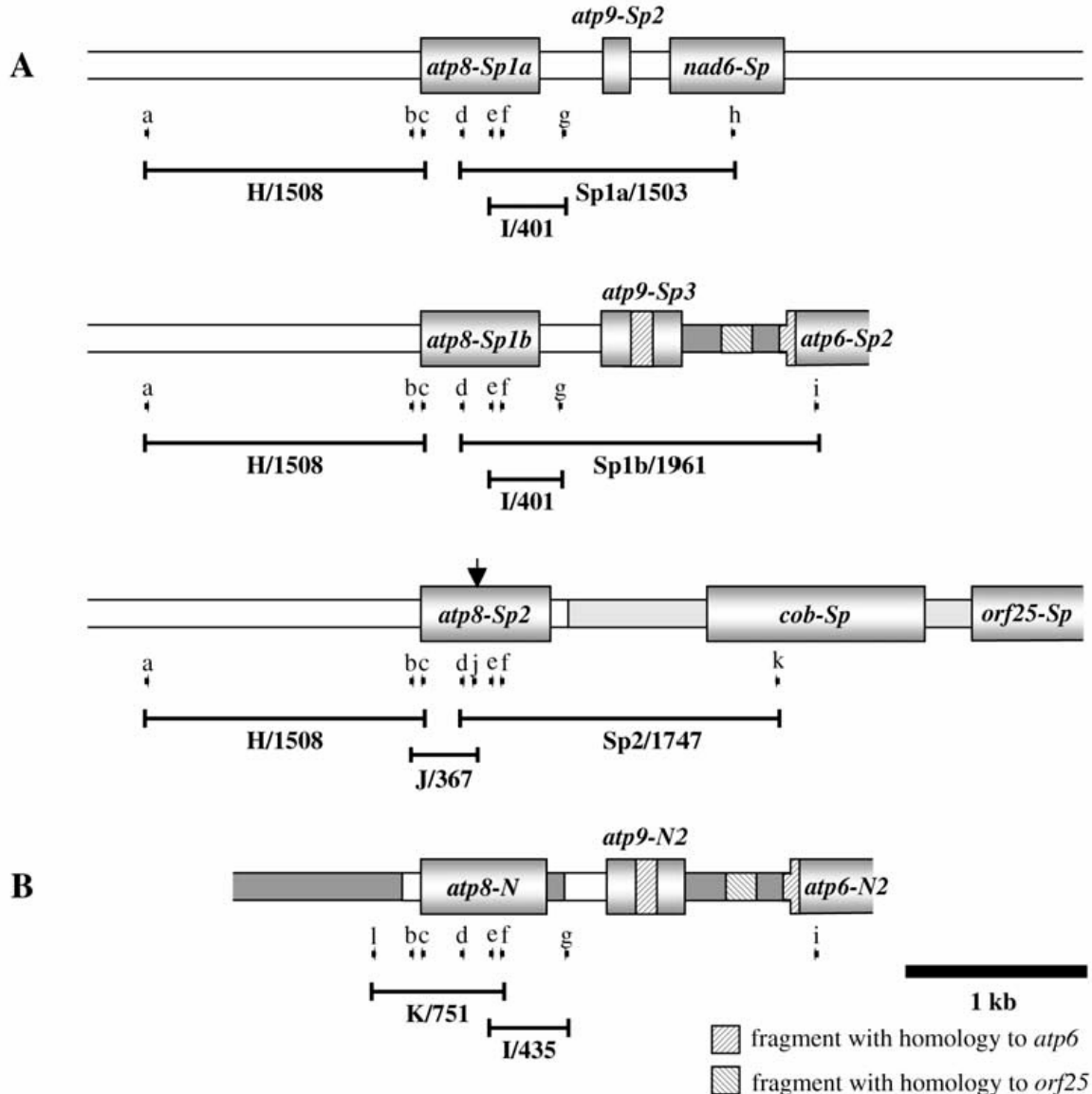**Example:**
Diagram of how it works:

Figure 4. Configurations of atp8 loci in K826A (A) and K831B (B). Three copies of atp8 were present in the K826A. The 3-flanking region of atp8-N was similar to the 3'-flanking region of atp8-Sp1b. Nonhomologous intergenic regions are indicated by different cross hatching patterns. Joined fragments in chimeric coding regions are indicated by different shadings. Thick arrows indicate annealing sites and orientations of the primers: cmt-10 (a), cmt-11 (b), atp8-u1 (c), atp8-d1 (d), atp8-d2 (e), atp8-u2 (f), cmt-12 (g), nad6-u1 (h), cmt-13 (i), cmt-14 (j), cob-u1 (k) and cmt-15 (l). Bars labeled H/1508, I/401, I/435, J/367 and K/751 indicate marker fragments that distinguish the mtDNA from K826A and K831B. Sp1a/1503, Sp1b/1961 and Sp2/1747 differentiate the three atp8 configurations in K826A. The vertical arrowhead indicates the site of the unique 12 bp insert in atp8-Sp2.

Genbank reference: The DNA sequences of the atp8-Sp1a, atp8-Sp1b, atp8-Sp2, and atp8-N loci have been assigned GenBank Accession Nos. AY007819, AY007820, AY007821 and AY007818, respectively.

Sequence Information:
Map Location:
Published Reference:
Other Information:
Primer Location (lab specific): Box 0 X0
PCR Program Name (lab specific):