

Rapid Communication: *MspI* Restriction Fragment Length Polymorphism at the Swine *MYF6* Locus^{1,2}

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Source and Description of Probe. A 1,296-bp rat cDNA clone for *MRF4* (also called *MYF6*) was excised from the *EcoRI* site of the plasmid pBluescript KS⁺ (Rhodes and Konieczny, 1989).

Method of Detection. DNA was isolated from whole blood and digested with *MspI*. Fragments were then separated by agarose gel electrophoresis and transferred to charged nylon membranes. Hybridizations were at 65°C for 16 to 20 h (.5 M NaCl, .05 M Na-phosphate buffer, pH 6.5, 5× Denhardt's reagent, 10% dextran sulfate, .5% SDS, 100 µg/mL sonicated, denatured salmon sperm DNA). Final washes were at 55 to 60°C in .7× SSC, .5% SDS for 15 to 20 min.

Description of Polymorphism. Hybridization with the rat *MRF4* probe revealed three swine fragments. The 6.3- and 4.6-kb fragments were polymorphic (Figure 1) and the 2.3-kb fragment was monomorphic (not shown). No polymorphisms were detected for swine *MYF6* in unrelated pigs using *TaqI* (34 pigs), *SacI* (28 pigs), or *XbaI* (23 pigs).

Inheritance Pattern. Autosomal Mendelian segregation of the 6.3- and 4.6-kb swine *MYF6* fragments was observed in 165 pigs from six, two- and three-generation families.

Frequency. Frequencies in 69 unrelated pigs were .92 (6.3-kb allele) and .08 (4.6-kb allele) (Table 1).

Chromosomal Location. Unknown.

Comments. *MYF6* is a skeletal muscle-specific transcription factor from the family that also includes MyoD (*myf-3*), myogenin, and *myf-5*. It has been reported in the rat as *MRF4* (Rhodes and Konieczny, 1989) and in the human as *myf-6* (Braun et al., 1990). *MYF6* seems to be the last of these genes to be expressed, and it is the predominant factor in postnatal muscle.

Literature Cited

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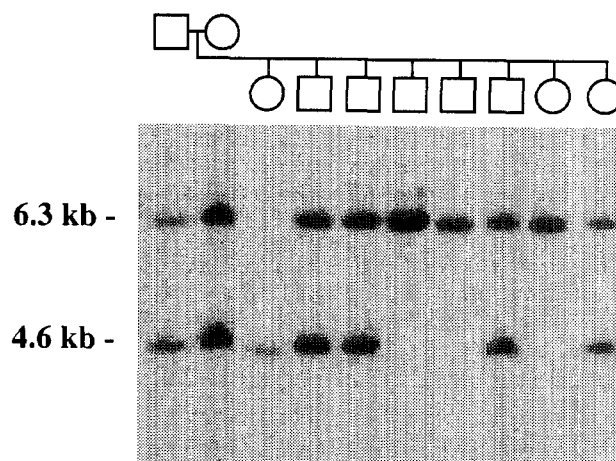


Figure 1. Mendelian segregation of porcine *MYF6* *MspI* fragments in a two-generation crossbred family of Meishan × Duroc pigs. Square denotes male; circle denotes female.

Table 1. Frequency of *MYF6* genotypes

Breed	n	Frequency of pigs with indicated genotype ^a		
		6.3/6.3	6.3/4.6	4.6/4.6
Fengjing	6	67	17	17
Meishan	8	63	25	12
Minzhu	4	50	50	0
Chester White	9	78	22	0
Other breeds ^b	42	100	0	0

^a6.3 = 6.3-kb *MspI* fragment; 4.6 = 4.6-kb *MspI* fragment.

^bLandrace, Yorkshire, Duroc, Hampshire, and Poland China.

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