Table 2. General characteristics of PAMPs (pathogen-associated molecular patterns) and the PRRs (pathogen recognition receptors) responsible for their recognition as opposed to the features of Avr (avirulence) proteins and their corresponding PRRs (characteristics of AvrXa21 and XA21 are shown in bold if they appear to be unique compared with other known systems)

PAMP • PRR General Characteristics	AvrXa21 • XA21 Characteristics	Avr • PRR General Characteristics
<ul> <li>PAMP (e.g., flagellin)</li> <li>Conserved among diverse species</li> <li>Required for lifecycle</li> <li>Not typically actively secreted</li> </ul>	<ul> <li>AvrXa21 <ul> <li>Strain specific, but core molecule appears to be conserved among species</li> <li>Activity is regulated in a cell-density-dependent manner by a two-component system</li> <li>Synthesized in absence of plant host (thus part of lifecycle)</li> <li>Absence compromises virulence in field</li> <li>Secreted by TOSS</li> </ul> </li> </ul>	<ul> <li>Avr (e.g., AvrRpt2)</li> <li>Strain specific</li> <li>Many synthesized only in presence of host</li> <li>Absence compromises virulence</li> <li>From bacteria, secreted by TTSS</li> </ul>
<ul> <li>PRR (e.g., FLS2)</li> <li>Extracellular (intracellular recognition only shown in animals)</li> <li>Recognition and response does not lead to resistance in most cases</li> </ul>	XA21 - Recognition likely extracellular - Confers dominant resistance	<ul> <li>PRR (e.g., RPS2)</li> <li>In dicots, recognition mostly intracellular (characterized RLPs are an important exception)</li> <li>Confers dominant resistance</li> </ul>

Gene	Primer	Primer sequence	Amplification region, length	
raxST1-R raxST2-F raxST2-R raxST3-F	raxST1-F	5'-ACCATTTCATTTCCGGGGCT-3'	62 to 291 <sup>st</sup> , 230 bp	
	raxST1-R	5'-CAGCTCCTGGCGATTCTGG-3'		
	raxST2-F	5'-GGGCACGGTGTTCGACACCA-3'	292 to 520 <sup>th</sup> , 229 bp	
	raxST2-R	5'-CACGCCCCGCGGCGCGGTCA-3'		
	raxST3-F	5'-CTGCGCCAGGCGTTCTACGG-3'	601 to 838 <sup>th</sup> , 238 bp	
	raxST3-R	5'-GCGAAGGCGCGCTTTCCCAG-3'		
raxP raxP1-F raxP1-R raxP2-F raxP2-R	raxP1-F	5'-GACCCTGCCGCCGCTGTCCC-3'	3 to 286 <sup>th</sup> , 284 bp	
	raxP1-R	5'-CGCCATCAGGATTGATGTGC-3'		
	raxP2-F	5'-ATCGACACACGCTGGAAGTT-3'	187 to 523 <sup>rd</sup> , 337 bp	
	raxP2-R	5'-TGCGCGCGTTGTAGAGAT-3'		
	raxP3-F	5'-GTGGAATCTCTACAACGCGC-3'	501 to 800 <sup>th</sup> , 300 bp	
raxP3-R	raxP3-R	5'-GCTTCCAGCGTGTCGGCACTG-3'	501 to 800 , 500 bp	
raxC raxC raxC raxC raxC	raxC1-F	5'-GCCACCGACCTGCTGCAGGT-3'	61 to 409 <sup>th</sup> , 349 bp	
	raxC1-R	5'-GAAATACGCCGCCGAGGTAC-3'		
	raxC2-F	5'-CCAACAACGATCTGATGACG-3'	368 to 654 <sup>th</sup> , 287 bp	
	raxC2-R	5'-CAATGCACGCAAACCAACTA-3'		
	raxC3-F	5'-TACGAGCAGCAGAAGCGCGC-3'	1021 to 1306 <sup>th</sup> , 285 bp	
	raxC3-R	5'-CGGTGATGTCGAGCTTGCCG-3'	1021 to 1500 , 285 0p	
raxR1- raxR2- raxR2- raxR3-	raxR1-F	5'-CGGCTGCTGGTCATTGAAGAC-3'	4 to 337 <sup>th</sup> , 334 bp	
	raxR1-R	5'-CTCGGGCAGTGCAAAGGG-3'	4 to 337, 334 op	
	raxR2-F	5'-GCGCCGGCTGCGCGAACAGCAC-3'	195 to 515 <sup>th</sup> , 321 bp	
	raxR2-R	5'-GCATCAGCACTTCGAGCAAC-3'		
	raxR3-F	5'-GCCGCAAGTTGCTCGAAGT-3'	488 to 707 <sup>th</sup> , 220 bp	
	raxR3-R	5'-CATACAGCTGCGCCGGTAG-3'	400 to 707 , 220 bp	
	rRNA-F	5'-TAGCTCAGGTGGTTAGAGCGC-3'		
	rRNA-R	5'-CAACGCGAACATACGACTCAA-3'		