

## Structure-based sequence alignment of TM5

Helix 5 PIP

1J4N	169	SGPLAIGFSVALGHLLAID	187
1FX8	178	LAPLLIGLLIAVIGASMG	196
1RC2	161	FAPIAIGLALTLIHLISIP	179
1Z98	197	LAPLPIGFVAVFMVHLATIP	215
2B6O	159	SVALAVGFSLTLGHFLFGMY	177
2F2B	174	FAGIIIGLTVAGIITTLGN	192
OsPIP1;1		LAPLPIGFVAVFLVHLATIP	
OsPIP1;2		LAPLPIGFVAVFLVHLATIP	
OsPIP1;3		LAPLPIGFVAVFLVHLATIP	
OsPIP1;4		LAPLPIGFVAVFLVHLATIP	
OsPIP1;5		LAPLPIGFVAVFLVHLATIP	
OsPIP2;1		LAPLPIGFVAVFMVHLATIP	
OsPIP2;2		LAPLPIGFVAVFMVHLATIP	
OsPIP2;3		LAPLPIGFVAVFMVHLATIP	
OsPIP2;4		LAPLPIGFVAVFMVHLATIP	
OsPIP2;5		LAPLPIGFVAVFMVHLATIP	
OsPIP2;6		LAPLPIGFVAVFMVHLATIP	
OsPIP2;7		LVPLPIGFVAVFVHLATIP	
OsPIP2;8		LAPLPIGLAVLVVHLATIP	
ZmPIP1;1		LAPLPIGFVAVFLVHLATMG	
ZmPIP1;2		LAPLPIGFVAVFLVHLATIP	
ZmPIP1;3		LAPLPIGFVAVFLVHLATIP	
ZmPIP1;4		LAPLPIGFVAVFLVHLATIP	
ZmPIP1;5		LAPLPIGFVAVFLVHLATIP	
ZmPIP1;6		LAPLPIGFVAVFLVHLATIP	
ZmPIP2;1		LAPLPIGFVAVFMVHLATIP	
ZmPIP2;2		LAPLPIGFVAVFMVHLATIP	
ZmPIP2;3		LAPLPIGFVAVFMVHLATIP	
ZmPIP2;4		LAPLPIGFVAVFMVHLATIP	
ZmPIP2;5		LAPLPIGFVAVFMVHLATIP	
ZmPIP2;6		LAPLPIGFVAVFMVHLATIP	
ZmPIP2;7		LAPLPIGFVAVFMVHLATIP	
AtPIP1;1		LAPLPIGFVAVFLVHLATIP	
AtPIP1;2		LAPLPIGFVAVFLVHLATIP	
AtPIP1;3		LAPLPIGFVAVFLVHLATIP	
AtPIP1;4		LAPLPIGFVAVFLVHLATIP	
AtPIP1;5		LAPLPIGFVAVFLVHLATIP	
AtPIP2;1		LAPLPIGFVAVFMVHLATIP	
AtPIP2;2		LAPLPIGFVAVFMVHLATIP	
AtPIP2;3		LAPLPIGFVAVFMVHLATIP	
AtPIP2;4		LAPLPIGFVAVFMVHLATIP	
AtPIP2;5		LAPLPIGFVAVFIVHLATIP	
AtPIP2;6		LAPLPIGFVAVFMVHLATIP	
AtPIP2;7		LAPLPIGFVAVFMVHLATIP	
AtPIP2;8		LAPLPIGFVAVFMVHLATIP	

Helix 5 TIP

1J4N	169	SGPLAIGFSVALG <b>H</b> LLAID	187
1FX8	178	LAPLLIGLLIAVIG <b>G</b> ASMGP	196
1RC2	161	FAPIAIGLALTLI <b>H</b> LISIP	179
1Z98	197	LAPLPIGFAVFMV <b>H</b> LATIP	215
2B6O	159	SVALAVGFSLTLG <b>H</b> LFGMY	177
2F2B	174	FAGIIIGLTVAGI <b>I</b> TTLGN	192
OsTIP1;1		IAPIAIGFIVGANILV <b>G</b> GA	
OsTIP1;2		IAPIAIGFIVGANIL <b>A</b> GGGA	
OsTIP2;1		IAPIAIGFIVGANIL <b>A</b> AGP	
OsTIP2;2		IAPIAIGFIVGANILV <b>A</b> GP	
OsTIP2;3		VAPMAIGFIVGANIL <b>A</b> AGP	
OsTIP3;1		IAPLAVGFLLGAN <b>M</b> LAGGP	
OsTIP3;2		IAPLAIGLVAGANIL <b>A</b> GGP	
OsTIP4;1		FGPLLTGLIVGAN <b>T</b> IAGGN	
OsTIP4;2		TGPLLTGLLVGAN <b>T</b> VAGGA	
OsTIP4;3		LGPLLVGLVVGANIL <b>A</b> GGP	
OsTIP5;1		LGALVVGAVTGAC <b>V</b> LAAGS	
ZmTIP1;1		IAPIAIGFIVGANILV <b>G</b> GA	
ZmTIP1;2		IAPIAIGFIVGANIL <b>A</b> GGGA	
ZmTIP2;1		IAPIAIGFIVGANIL <b>A</b> AGP	
ZmTIP2;2		IAPIAIGFIVGANIL <b>A</b> AGP	
ZmTIP2;3		IAPMAIGFIVGANIL <b>A</b> AGP	
ZmTIP3;1		IAPLAVGFLLGAN <b>V</b> LAGGP	
ZmTIP4;1		IGPLLTGLIVGAN <b>S</b> LAGGN	
ZmTIP4;2		IGPLLTGLIVGAN <b>S</b> LAGGN	
ZmTIP4;3		AGPLLTGLLVGAN <b>S</b> VAGAA	
ZmTIP4;4		MGPLLVGLVVGAN <b>V</b> LAGGP	
ZmTIP5;1		LGALAVGLTQGA <b>F</b> VLAAGA	
AtTIP1;1		IAPIAIGFIVGANIL <b>A</b> GGGA	
AtTIP1;2		IAPIAIGFIVGANIL <b>A</b> GGGA	
AtTIP1;3		IAPLAIGLIVGANILV <b>G</b> GA	
AtTIP2;1		IAPLAIGLIVGANIL <b>A</b> AGP	
AtTIP2;2		IAPIAIGFIVGANIL <b>A</b> AGP	
AtTIP2;3		IAPIAIGFIVGANIL <b>A</b> AGP	
AtTIP3;1		IAPLAIGLIVGANILV <b>G</b> GP	
AtTIP3;2		IAPLAIGLIVGANILV <b>G</b> GP	
AtTIP4;1		FGPLLTGFVVGANIL <b>A</b> GGGA	
AtTIP5;1		VGPIFIGFVAGAN <b>V</b> LAAGP	

Helix 5 NIP

1J4N	169	SGPLAIGFSVALG <b>H</b> LLAID	187
1FX8	178	LAPLLIGLLIAVIG <b>G</b> ASMGP	196
1RC2	161	FAPIAIGLALTLI <b>H</b> LISIP	179
1Z98	197	LAPLPIGFAVFMV <b>H</b> LATIP	215
2B6O	159	SVALAVGFSLTLG <b>H</b> LFGMY	177
2F2B	174	FAGIIIGLTVAGI <b>I</b> TTLGN	192
OsNIP1;1		LAGLAVGATILLNVLIAGP	
OsNIP1;2		LAGLAVGATVAVNVLFAGP	
OsNIP1;3		LAGLAVGATVLVNVLFAGP	
OsNIP1;4		MAGVAVGGTIMLN <b>V</b> LFAGP	
OsNIP1;5		LAGLAVGATVAVNVLFAGP	
OsNIP2;1		LAGLAVGSAVCIT <b>S</b> IFAGA	
OsNIP2;2		LAGLAVGSAVCIT <b>S</b> IFAGP	
OsNIP3;1		LAGIAVGAAVTLN <b>I</b> LIAGP	
OsNIP3;2		LIAVAVGATIMM <b>N</b> ALVAGP	
OsNIP3;3		LIAVAVGATVMM <b>N</b> ILVAGP	
OsNIP3;4		--YACEILLCIY <b>N</b> VLVAGP	
OsNIP3;5		----AIAAAIMM <b>N</b> ALVGGP	
OsNIP4;1		VGGIAIGAAVGG <b>L</b> GLVIGP	
ZmNIP1;1		LAGLAVGATILLNVLIAGP	
ZmNIP2;1		LAGLAVGSAVCIT <b>S</b> IFAGA	
ZmNIP2;2		LAGLAVGSAVCIT <b>S</b> IFAGP	
ZmNIP3;1		LAGIAVGAAVTLN <b>I</b> LVAGP	
AtNIP1;1		LAGLAIGSTVLLNV <b>L</b> IAAP	
AtNIP1;2		LAGLAVGSTVLLNV <b>I</b> IAGP	
AtNIP2;1		LEGLIIGATVTLNV <b>I</b> FAGE	
AtNIP3;1		FAGIAIGATIVLD <b>I</b> LFSGP	
AtNIP4;1		LAGIAVGMTIMVN <b>V</b> FVAGP	
AtNIP4;2		LAGIAVGMTI <b>I</b> ILNVFVAGP	
AtNIP5;1		LAGIAVGATVMLN <b>I</b> LVAGP	
AtNIP6;1		LAGIAVGATVMLN <b>I</b> LIAGP	
AtNIP7;1		LTGFVIGTVISL <b>G</b> VLITGP	

Helix 5 SIP

1J4N	169	SGPLAIGFSVALG <b>H</b> LLAID	187
1FX8	178	LAPLLIGLLIAVIG <b>G</b> ASMGP	196
1RC2	161	FAPIAIGLALTLI <b>H</b> LISIP	179
1Z98	197	LAPLPIGFAVFMV <b>H</b> LATIP	215
2B6O	159	SVALAVGFSLTLG <b>H</b> LFGMY	177
2F2B	174	FAGIIIGLTVAGI <b>I</b> TTLGN	192
OsSIP1;1		VKTWMLSISTVCLVLTGAA	
OsSIP2;1		MKTWISSIWKM <b>T</b> FHLLSSD	
ZmSIP1;1		LKTLLLS <b>T</b> SIVSVILAGAE	
ZmSIP1;2		IKTWMISICTLCLV <b>L</b> SGAA	
ZmSIP2;1		MKTWITSIWKN <b>T</b> IHLLSSD	
AtSIP1;1		AKTFLLALATIS <b>F</b> VVAGSK	
AtSIP1;2		AKTFLLALATVSV <b>F</b> VVAGSK	
AtSIP2;1		MKTWIGSLAKLTL <b>H</b> ILGSD	