

ISH primers *Selaginella moellendorffii*:

1 10 20 30 40 50 60 70  
. SM\_KAN1 translation M E I S N A A A A P A L L L P D L S L Q I S P P C S T S K A A P S P A A S S G L T D H Q L W T T T R P L S S S S G T V E L S K S S P P R S S I N S  
. SM\_KAN2 translation M E M P I R L L A I P A E P D L S L R I S T P P A I R G G G S H H D G T S A F E I W K K S G A S S S S S D C S S S N Y S P R G E H H H P E A V E A S  
. SM\_KAN3 translation M N R R K Q D H S V P D L S L Q I S P P S T G K S T P M A T Y Q K N Y Q E F D L W S R A Q H N S S S S V S D N S S N S T C G S E R W C R E A A A A

80 90 100 110 120 130 140  
. SM\_KAN1 translation A A S S S L A S D N S S S N S S G G E T S I Q L S L G S R Y F N A L G G A D K N R P V G A D D A E R K P S K V P L F G E D R S F S S R L D S T D S  
. SM\_KAN2 translation T E L S L G R S F F Y R A H S S G I D H H H H H A S M H A A R S D R N S S I D G L F R I G M R S S S P D G D H Y P R Q G I D F L S R A P A Y G L  
. SM\_KAN3 translation P P S T L S L G A N P L F R A T P P S P S F K S S I R S S S E S Y A A A L E A S R P G F A V Y S S S S S H I P A A Q S F Q N L R I A N E D A H C

150 160 170 180 190 200 210 220 230 240 250 260 270 280 290  
. SM\_KAN1 translation K A E Q H K A S F V Q F S S S C S T S H H H R Q Q Q L Q Q V L Q R Y S S P A M M N L Y Q S G F S S V R M S N G A V A P P P P T T T T T T T T T T D G S L  
. SM\_KAN2 translation R F A P V T E I T Q E H H D P A P A V G N S S H S G H C Q E Q Q K I E K M G G S E N S Q R E S I V V S A P S Q Q R S R I I S K L P V K I R S A R  
. SM\_KAN3 translation R S A D A S T R N S F H A F Y S H A F G Y G D Q S G G A G Q A G H L V A T Y S N A A G G L Q Q Q Q Q Q Q Q Q Q H Q A Y S S S F H R L L H N R E I G L P N

220 230 240 250 260 270 280 290  
. SM\_KAN1 translation S A L F D A S S S S C G S S V P T P L I A G N A A T S S L R S R Y I S K F P V K R N V R A P R M R W T S T L H A H F V H A V E L L G G H E R A T P  
. SM\_KAN2 translation A Q R M R W T S N L H A H F V K A V E R L G G H E R A T P K T V L E L M N V K E L T L A H V K S H L Q M Y R T V K T T D K A T L T E K N M E I M A  
. SM\_KAN3 translation I L S A V N S T S Y D S R D Y H Q R R Y T P S L Q E I L Q G R S P Q Q G R Y M E L A E N A G I T L S T L T R S I A Q Q H E A H T G S S N L R S Q

300 310 320 330 340 350 360  
. SM\_KAN1 translation K S V L E L M N V K D L T L A H V K S H L Q M Y R T V K T T D K S A S T D H V S S V E M R K M D D P K L M Q W K P E A V Q P R Y S D E P A L Q S R  
. SM\_KAN2 translation E E A Q S P N S S S S G R D D W S N T R C N T N V R L V G Q L E A G E L G K H D E L S S L G N L V P K R A T V A A V Q W L G S  
. SM\_KAN3 translation F M P R L P T K R S M R A R R M R W T S T L H A H F V H A V E L L G G H E R A T P K S V L E L M N V K D L T L A H V K S H L Q M Y R T I K T T D K

370 380 390 400 410 420 430 440 450 460 469  
. SM\_KAN1 translation C P R S Q E V V P R P S F S D G L W Q Q H M K Q T S H G A M K I E D G L Q Q R Q F S A T T L S Q L M S S R M S H M I P K V P S L E F T L G R P G Y  
. SM\_KAN2 translation A S S S S G A T N D A T S S G S L E S L N A R K S S E Q V A W H D P E R S K T R M E E G R S S G W E A C D H E E H E E E D E D L P G K K K Q S K P P  
. SM\_KAN3 translation A S S S S G A T N D A T S S G S L E S L N A R K S S E Q V A W H D P E R S K T R M E E G R S S G W E A C D H E E H E E E D E D L P G K K K Q S K P P

440 450 460 469  
. SM\_KAN1 translation H L A E H S E A P P P Q E L L L L R C  
. SM\_KAN2 translation  
. SM\_KAN3 translation C P E L S L G R S S W D D P P P S P P S S E G E E L M L L K C

Gene	Species	Family	Accession number	Database
<i>ArlyKAN1</i>	<i>Arabidopsis lyrata</i> (L.) O'Kane & Al-Shehbaz	Brassicaceae	XM_021022418	NCBI
<i>AtKAN1</i>	<i>Arabidopsis thaliana</i> (L.) Heynh.	Brassicaceae	At5g16560	NCBI
<i>ArhaKAN2</i>	<i>Arabidopsis halleri</i> (L.) O'Kane & Al-Shehbaz	Brassicaceae	Araha.2690s0004.1	Phytozome
<i>AtKAN2</i>	<i>Arabidopsis thaliana</i> (L.) Heynh.	Brassicaceae	At1g32240	NCBI
<i>AtKAN3</i>	<i>Arabidopsis thaliana</i> (L.) Heynh.	Brassicaceae	At4g17695	NCBI
<i>ArlyKAN2</i>	<i>Arabidopsis lyrata</i> (L.) O'Kane & Al-Shehbaz	Brassicaceae	AL1G46380.t1	Phytozome
<i>ArhaKAN3</i>	<i>Arabidopsis halleri</i> (L.) O'Kane & Al-Shehbaz	Brassicaceae	Araha.450750021	Phytozome
<i>ArlyKAN3</i>	<i>Arabidopsis lyrata</i> (L.) O'Kane & Al-Shehbaz	Brassicaceae	AL7G36890.t1	Phytozome
<i>Lybakan3</i>	<i>Lycium barbarum</i> L.	Solanaceae	LWCK_scaffold_20128041	OneKP
<i>LybaKAN3.2</i>	<i>Lycium barbarum</i> L.	Solanaceae	LWCK_scaffold_20128031	OneKP
<i>LyspKA2/3</i>	<i>Lycium</i> sp. L.	Solanaceae	OSMU_scaffold_20775471	OneKP
<i>SolaKAN2/3</i>	<i>Solanum lasiophyllum</i> Humb. & Bonpl. ex Dunal	Solanaceae	DLAI_scaffold_20168201	OneKP
<i>TsheKAN</i>	<i>Tsuga heterophylla</i> (Raf.) Sarg.	Pinaceae	GAMH_scaffold_20502891	OneKP
<i>ArspKAN</i>	<i>Araucaria</i> sp. Juss.	Araucariaceae	ACWS_scaffold_20705791	OneKP
<i>LafriKAN</i>	<i>Lagarostrobos franklinii</i> (Hook. f.) Quinn	Podocarpaceae	ZQWM_scaffold_20857481	OneKP
<i>JuscKAN</i>	<i>Juniperus scopulorum</i> Sarg.	Cupressaceae	XMGP_scaffold_20580761	OneKP
<i>FohoKAN</i>	<i>Fokienia hodginsii</i> (Dunn) A. Henry & H.H. Thomas	Cupressaceae	UEVI_scaffold_20615841	OneKP
<i>ChlaKAN</i>	<i>Chamaecyparis lawsoniana</i> (A. Murray) Parl.	Cupressaceae	AIGO_scaffold_20111741	OneKP
<i>TotaKAN</i>	<i>Torreya taxifolia</i> Arn.	Taxaceae	EFMS_scaffold_20786011	OneKP
<i>TabaKAN</i>	<i>Taxus baccata</i> L.	Taxaceae	WWSS_scaffold_20062611	OneKP
<i>AgroKAN</i>	<i>Agathis robusta</i> (C. Moore ex F. Muell.) F.M. Bailey	Araucariaceae	MIXZ_scaffold_20107471	OneKP
<i>AtATS</i>	<i>Arabidopsis thaliana</i> (L.) Heynh.	Brassicaceae	At5g42630	NCBI
<i>ArhaATS</i>	<i>Arabidopsis halleri</i> (L.) O'Kane & Al-Shehbaz	Brassicaceae	Araha.21611s0001.1	phytozome
<i>CisiATS</i>	<i>Citrus sinensis</i> Pers.	Rutaceae	orange1.1g018802m	Phytozome
<i>CiclATS</i>	<i>Citrus clementina</i> hort.	Rutaceae	Ciclev10001679m	Phytozome
<i>SolyATS</i>	<i>Solanum lycopersicum</i> L.	Solanaceae	Solyc04g079600.2.1	Phytozome
<b>Ferns</b>				
<i>EdiKAN1</i>	<i>Equisetum diffusum</i> D.Don	Equisetaceae	CAPN_2002682	OneKP

<i>EdiKAN2</i>	<i>Equisetum diffusum</i> D.Don	Equisetaceae	CAPN_2001900	OneKP
<i>EdiKAN3</i>	<i>Equisetum diffusum</i> D.Don	Equisetaceae	CAPN_2002684	OneKP
<i>EdiKAN4</i>	<i>Equisetum diffusum</i> D.Don	Equisetaceae	CAPN_2003191	OneKP
<i>EdiKAN5</i>	<i>Equisetum diffusum</i> D.Don	Equisetaceae	CAPN_2033999	OneKP
<i>EdiKAN6</i>	<i>Equisetum diffusum</i> D.Don	Equisetaceae	CAPN_2039666	OneKP
<i>EhyKAN1</i>	<i>Equisetum hyemale</i> L.	Equisetaceae	JVSC_2013610	OneKP
<i>EhyKAN2</i>	<i>Equisetum hyemale</i> L.	Equisetaceae	JVSZ_2131030	OneKP
<i>EhyKAN3</i>	<i>Equisetum hyemale</i> L.	Equisetaceae	JVSC_2014696	OneKP
<i>PiglKAN1</i>	<i>Pilularia globulifera</i> L.	Marsiliaceae	KIIX_2089319	OneKP
<i>PiglKAN2</i>	<i>Pilularia globulifera</i> L.	Marsiliaceae	KIIX_2011267	OneKP
<i>OsmKAN</i>	<i>Osmunda</i> sp. L.	Osmundaceae	UOMY_2081413	OneKP
<i>ViliKAN1</i>	<i>Vittaria lineata</i> (L.) Sm.	Pteridaceae	SKYV_2017962	OneKP
<i>ViliKAN2</i>	<i>Vittaria lineata</i> (L.) Sm.	Pteridaceae	SKYV_2017658	OneKP
<i>BlspKAN1</i>	<i>Blechnum spicant</i> (L.) Sm.	Blechnaceae	AFPO_2068439	OneKP
<i>BlspKAN2</i>	<i>Blechnum spicant</i> (L.) Sm.	Blechnaceae	AFPO_2073137	OneKP
<i>BlspKAN3</i>	<i>Blechnum spicant</i> (L.) Sm.	Blechnaceae	AFPO_2075041	OneKP
<i>CracKAN1</i>	<i>Cryptogramma acrostichoides</i> R.Br.	Adiantaceae	WQML_20000652	OneKP
<i>CracKAN2</i>	<i>Cryptogramma acrostichoides</i> R.Br.	Adiantaceae	WQML_2013575	OneKP
<i>CerKAN1</i>	<i>Ceratopteris thalictroides</i> (L.) Brongn.	Pteridaceae	PIVW_2013269	OneKP
<i>CerKAN2</i>	<i>Ceratopteris thalictroides</i> (L.) Brongn.	Pteridaceae	PIVW_2013269	OneKP
<i>CerKAN3</i>	<i>Ceratopteris thalictroides</i> (L.) Brongn.	Pteridaceae	PIVW_2012454	OneKP
<i>CumaKAN</i>	<i>Culcita macrocarpa</i> C. Presl	Culcitaceae	PNZO_2143811	OneKP
<i>PoheKAN</i>	<i>Polypodium hesperium</i> Maxon	Polypodiaceae	ZRAR_2034727	OneKP
<i>PoacKAN</i>	<i>Polystichum acrostichoides</i> (Michx.) Schott	Polypodiaceae	FQGQ_2073335	OneKP
<i>WoscKAN</i>	<i>Woodsia scopulina</i> D.C.Eaton	Woodsiaceae	YJJY_2075370	OneKP
<i>CeriKAN1</i>	<i>Ceratopteris richardii</i> Brongn.	Pteridaceae	iOHQ_Cfern/c/23/f1p123/12935	
<i>CeriKAN2</i>	<i>Ceratopteris richardii</i> Brongn.	Pteridaceae	iOHQ_Cfern/c/23/f1p123/10643	

SM-KAN1f	ATGGAGATTTCCAATGCGGCAGCAG
SM-KAN1r	GGAAGAGCTTGCATCAAACAAGGC
SM-KANrT7	CTAATACGACTCACTATAGGGGGAAGAGCTTGCATCAAACAAGGC
SM-KAN2f	ATGGAAATGCCCATCAGGCTC
SM-KAN2r	CTTCACGGGCAATTTGGAGATG
SM-KAN2rT7	CTAATACGACTCACTATAGGGCTTCACGGGCAATTTGGAGATG
EhyKAN1f	GAATGGTATAGAACTAGCCGG
EhyKAN1r	CGAAGACGCAGGTTATTGTGG
EhyKAN1rT7	CTAATACGACTCACTATAGGGCGAAGACGCAGGTTATTGTGG
EhyKAN2f	CTTCCACAGATCTCTGCTTAGC
EhyKAN2r	GGTAGCTTTGACAGGAATGG
EhyKAN2T7	CTAATACGACTCACTATAGGGGGTAGCTTTGACAGGAATGG
EhyKAN3fwd	catcatccatcatgagttatg
EhyKAN3rev	cttaggaacctgggctgg
EhyKAN3revISH	CTTAATACGACTCACTATAGGGcttaggaacctgggctgg