

Geminivirus	Accession #	Motif I	Motif II	GRS	Motif III	Walker A	Walker B	Motif C
Spinach curly top Arizona virus	HQ443515	FLTYIS	HTHCIF	LFFNIILPDGRTIHPRVDGLNAP	YITKE	GRSPNRLGDSNL	VIDDI	IGCN
Opuntia becurtovirus ASU PP7	MT840839	FLTYIS	HTHCIF	LFFNIILPDGRTIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus ASU PP13	MT840840	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus DBG 80	MT840841	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus DBG 86	MT840842	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus DBG 38	MT840843	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus LCM 23	MT840844	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus Martin 2014	MT840845	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 12	MT840846	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 14	MT840847	FLTYIS	HTHCIF	LFFNIILPDGRVIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 24	MT840848	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 30	MT840849	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 34	MT840850	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 40	MT840851	FLTYIS	HTHYIF	LFFNIILPDGRVIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 59 1	MT840852	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	IIDDI	IGCN
Opuntia becurtovirus S18 69	MT840853	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 71 1	MT840854	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 71 2	MT840855	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 77	MT840856	FLTYIS	HTHCIF	LFFNIILPDGRTIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 84 1	MT840857	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 84 2	MT840858	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 89 1	MT840859	FLTYIS	HTHCIF	LFFNIILPDGRVIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 89 2	MT840860	FLTYIS	HTHCIF	LFFNIILPDGRVIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 100	MT840861	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 101	MT840862	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNM	VIDDI	IGCN
Opuntia becurtovirus S18 54	MT840863	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 56	MT840864	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 59 2	MT840865	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	IIDDI	IGCN
Opuntia becurtovirus SI 47	MT840866	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus SI 68	MT840867	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus TM3 2	MT840868	FLTYIS	HTHCIF	LFFNIILPDGRVIHPRVDGLNAP	YITKE	GRSPNRLGNSNM	VIDDI	IGCN
Opuntia becurtovirus UTH RH6	MT840869	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia becurtovirus S18 17	MT840870	FLTYIS	HTHCIF	LFFNIILPDGRIIHPRVDGLNAP	YITKE	GRSPNRIGNSNL	VIDDI	IGCN
Opuntia virus 2 DBG 56	MT840871	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 DBG 57	MT840872	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 DBG 61	MT840873	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 DBG 62	MT840874	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 DBG 63	MT840875	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 S18 3 1	MT840876	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCCKAN	VIDDV	WQSN
Opuntia virus 2 S18 3 2	MT840877	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCCKAN	VIDDV	WQSN
Opuntia virus 2 S18 3 3	MT840878	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCCKAN	VIDDV	WQSN
Opuntia virus 2 S18 4 1	MT840879	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 4 2	MT840880	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 4 3	MT840881	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 5 1	MT840882	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 5 2	MT840883	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 8 1	MT840884	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 8 2	MT840885	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 8 3	MT840886	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 8 4	MT840887	FLTYT	HLHLIJ	RLFDLVSPTRSAHFHPNIQGAKS	YINKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 12 1	MT840888	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 12 2	MT840889	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 14	MT840890	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 25 1	MT840891	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 25 2	MT840892	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 26 1	MT840893	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDI	WQSN
Opuntia virus 2 S18 26 2	MT840894	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 26 3	MT840895	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDI	WQSN
Opuntia virus 2 S18 27	MT840896	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 40 1	MT840897	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 S18 40 2	MT840898	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 S18 40 3	MT840899	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 S18 41 1	MT840900	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 S18 41 2	MT840901	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 S18 75 1	MT840902	FITYT	HLHVLJ	RLFDLVSPTRSTHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 75 2	MT840903	FITYT	HLHVLJ	RLFDLVSPTRSTHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 75 3	MT840904	FITYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 S18 75 4	MT840905	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN
Opuntia virus 2 SI 63 1	MT840906	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCCKAN	VIDDV	WQSN
Opuntia virus 2 SI 63 2	MT840907	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 SI 64	MT840908	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCCKAN	VIDDV	WQSN
Opuntia virus 2 SI 70	MT840909	FLTYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGSQKAN	VIDDV	WQSN
Opuntia virus 2 TM cacti 3 1	MT840910	FITYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 TM cacti 3 2	MT840911	FITYT	HLHVLJ	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGCQKAN	VIDDV	WQSN
Opuntia virus 2 UTH RH4	MT840912	FLTYT	HLHILL	RLFDLVSPTRSAHFHPNIQGAKS	YIDKD	GRSARGGQQTAN	VIDDV	WQSN