Electronic Supplementary Material (ESI) for RSC Advances.
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Supplementary data file for *RSC advance*

A Multifunctional Oxidosqualene Cylasefrom *Tripterygium regelii* producing both α - and β -amyrin

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Fig S1.

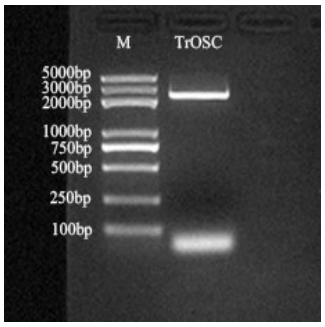

Fig S1. Agarose gel electrophoresis of the cDNA of *TrOSC*, which coded for a 2289 bp open reading frame.M:Trans 2K plus DNA Marker.

Fig S2.

Fig S2. The 3D structure prediction of *TrOSC* protein using homology-based modelling.3D modelling of *TrOSC* was used protein 1w6j.1(Lanosterol synthase) as a template (Modeling range:amino acids 54-748) and showed 41.54% sequence identity.

Table S1. List of primers used in this study.

Primer Name	Sequence（5’ → 3’）
OSC-F	AAATATCAAATATGTGGAGGCTTA
OSC-R	TGGACTGGGCATTGGTCTA
TrOSC-pYES2-F	GACTCACTATAGGGAATATTAATGTGGAGGCTTAAGGTGGG
TrOSC-pYES2-R	ACTAGATGCATGCTCGAGCTTACACGTCTGGAGCACTTTCG
qTrOSC-F	TCTTATTGTCCCTACAGAGTGAAAACG
qTrOSC-R	ATGTCCAGGATATAGCCTTTTGAATAG
EF-α F	CCAAGGGTGAAAGCAAGGAGAGC
EF-α R	CACTGGTGGTTTTGAGGCTGGTATCT

Table S2. Other plant OSCs included in phylogenetic tree.

Gene name	Species	Type of Synthase	Genebank accession number
PqBAS	*Panax quinquefolius*	beta-amyrin synthase	JX262290
PjBAS	*Panax japonicus*	beta-amyrin synthase	KP658156
BcBAS	*Bupleurum chinense*	beta-amyrin synthase	EU400220
SlBAS	*Solanum lycopersicum*	beta-amyrin synthase	NM_001247675
PgBAS	*Platycodon grandiflorus*	beta-amyrin synthase	KY412556
AeBAS	*Aralia elata*	beta-amyrin synthase	HM219225
PgBAS	*Panax ginseng*	beta-amyrin synthase	O82140
KsBAS	*Kalopanax septemlobus*	beta-amyrin synthase	MF627963
EsBAS	*Eleutherococcus senticosus*	beta-amyrin synthase	KX378998
RsMS	*Rhizophora stylosa*	multifunctional triterpene synthase	AB263203
BpBAS	*Betula platyphylla*	beta-amyrin synthase	Q8W3Z1
BpBAS	*Betula platyphylla*	beta-amyrin synthase	AB055512
LjMS	*Lotus japonicus*	multifunctional triterpene synthase	AF478455
PsMAS	*Pisum sativum*	mixed-amyrin synthase	AB034803
PsMAS	*Pisum sativum*	mixed-amyrin synthase	Q9LRH7
RcLUS	*Ricinus communis*	lupeol synthase	NM_001323755
KcMS	*Kandelia candel*	multifunctional triterpene synthase	AB257507
MdMAS	*Malus domestica*	mixed-amyrin synthase	FJ032006
EjMAS	*Eriobotrya japonica*	mixed-amyrin synthase	JX173279
RsMS	*Rhizophora stylosa*	multifunctional triterpene synthase	BAF80442
OeMAS	*Olea europaea*	mixed-amyrin synthase	AB291240
CrMAS	*Catharanthus roseus*	mixed-amyrin synthase	JN991165
LjLUS	*Lotus japonicus*	lupeol synthase	AB181245
VrLUS	*Vigna radiata var. radiata*	lupeol synthase	XM_014649572
AdLUS	*Arachis duranensis*	lupeol synthase	XM_016110878
BpLUS	*Betula platyphylla*	lupeol synthase	AB055511
WsLUS	*Withania somnifera*	lupeol synthase	JQ728552
OeLUS	*Olea europaea*	lupeol synthase	AB025343
ToLUS	*araxacum officinale*	lupeol synthase	AB025345
AmCAS	*Abies magnifica*	cycloartenol synthase	AF216755
DzCAS	*Dioscorea zingiberensis*	cycloartenol synthase	AM697885
DzCAS	*Dioscorea zingiberensis*	cycloartenol synthase	FN547822

AmCAS	*Allium macrostemon*	cycloartenol synthase	AB025353
LaCAS	*Luffa aegyptiaca*	cycloartenol synthase	AB033334
CpCAS	*Cucurbita pepo*	cycloartenol synthase	AB116237
SlCAS	*Solanum lycopersicum*	cycloartenol synthase	NM_001246855
AtCAS	*Arabidopsis thaliana*	cycloartenol synthase	U02555
BpCAS	*Betula platyphylla*	cycloartenol synthase	AB055510
LjCAS	*Lotus japonicus*	cycloartenol synthase	AB181246
PsCAS	*Pisum sativum*	cycloartenol synthase	D89619
KcCAS	*Kandelia candel*	cycloartenol synthase	AB292609
BkCAS	*Bupleurum kaoi*	cycloartenol synthase	AY514456
PgCAS	*Panax ginseng*	cycloartenol synthase	AB009029
CaCAS	*Centella asiatica*	cycloartenol synthase	AY520819