

Table 1 Summary of the functional annotation of assembled hedgehog unigenes with public protein databases using BlastX cut-off E-value of 1E-5

	Number of unigenes	% Annotated unigenes
Annotated in NR	54658	16.63
Annotated in NT	224390	68.29
Annotated in KO	36283	11.04
Annotated in SwissProt	67656	20.59
Annotated in PFAM	70833	21.55
Annotated in GO	70833	21.55
Annotated in KOG	24944	7.59
Annotated in all Databases	12570	3.82
Annotated in at least one Database	243133	73.99
Total Unigenes	328576	100

Table 2 The candidate pathway and genes related to spine and hair development and differentiation

ID	Pathway	p-value	Representative genes
ko04115	P53	<0.001	SFN, RCHY1_PIRH2
ko04530	Tight junction	<0.001	ACTB_G1, MYL9, MYH, CLDN, SHROOM
ko04110	Cell cycle	0.014	SFN
ko04010	MAPK	0.291	SFN, HSPA1_8, CACNA1H, CACNA1I, HSPB1
ko04015	Rap1	0.490	FGF, ACTB_G1, DRD2, CSF1R, RAPGEF3, ADCY8
ko04390	Hippo	0.525	ACTB_G1, BMP8, WNT3, WNT10
ko04510	Focal adhesion	0.705	ACTB_G1, MYL9, FLNA, PAK6, MYLK, PARV, SPP1
ko04370	VEGF	0.839	HSPB1
ko04350	TGF-beta	0.855	BMP8
ko03320	PPAR	0.999	UBC