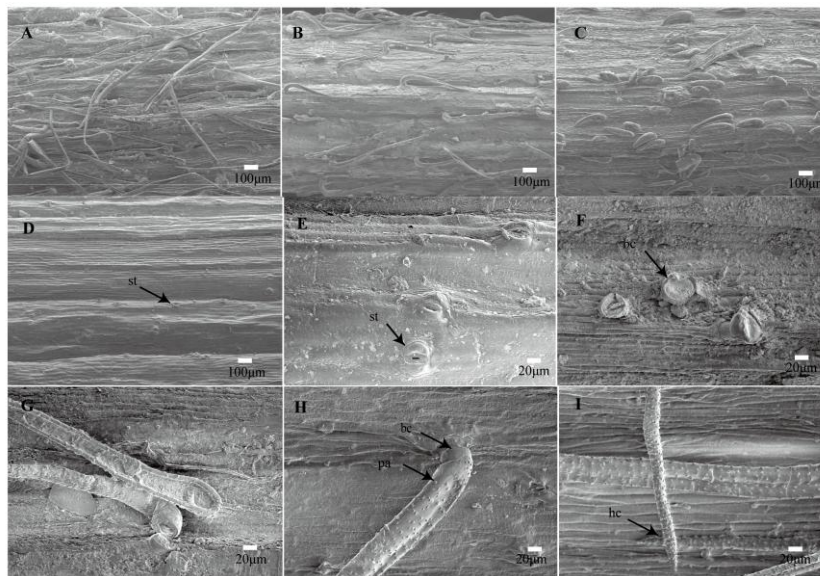




附图 1 蒙古黄芪多毛茎与无毛茎图

Fig. S1 Diagram of pilose and glabrous stems of *A. mongholicus*

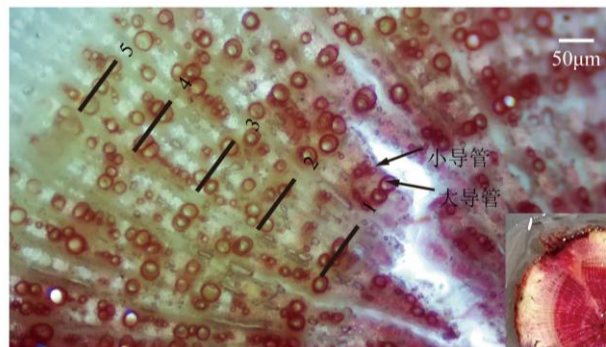


A-C-多毛茎表皮图片；D-无毛茎表皮图片；E-无毛气孔图；F-毛状体脱落基部图；G-毛状体断裂图；H-毛状体基部图片；I-毛状体顶端图片。st-气孔；pa-乳突；hc-非腺毛头端；bc-非腺毛基部。

A-C: micrographs of stem epidermal trichomes; D: micrograph of trichome-free stem epidermis; E-stomatal complex on glabrous surface; F-detached trichome base; G-fractured trichome shaft.; H-trichome base; I-trichome apex ;st-stomatal complex; pa-papillae; hc-head cell; bc-base cell

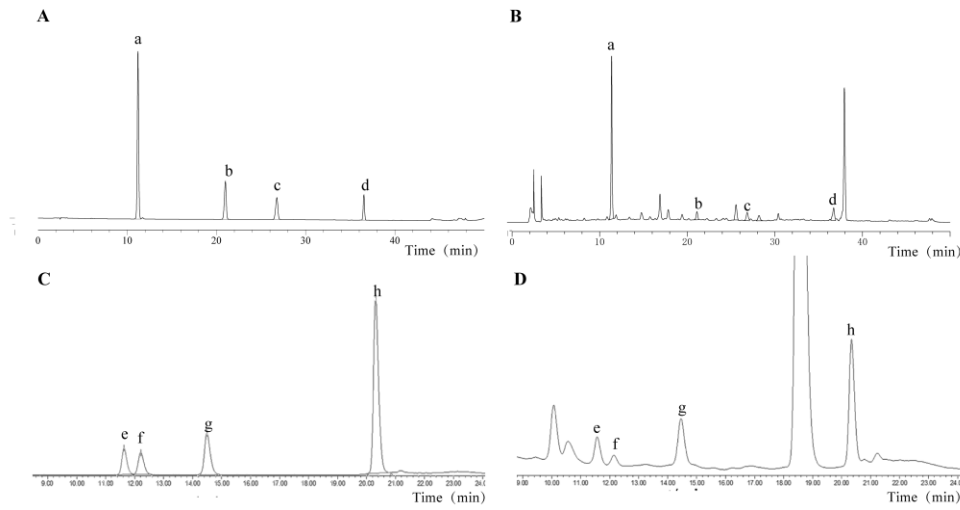
附图 2 蒙古黄芪多毛茎和无毛茎电镜图

Fig. S2 SEM of pilose and glabrous stems in *A. mongholicus*



附图 3 蒙古黄芪根部年限图

Fig. S3 Identification of root age of *A. mongholicus*.



A-黄酮类标品图; B-黄酮类样品图; C-皂苷类标品图; D-皂苷类样品图; a-毛蕊异黄酮苷; b-芒柄花苷; c-毛蕊异黄酮; d-芒柄花素; e-黄芪甲苷; f-黄芪皂苷III; g-黄芪皂苷II; h-黄芪皂苷I  
A-flavonoid reference standard chromatogram; B-flavonoid sample chromatogram; C-saponin reference standards chromatogram; D-saponin sample chromatogram; a-calycosin-7-O- $\beta$ -D-glucoside; b-ononin; c-calycosin; d-formononetin; e-astragaloside IV; f-astragaloside III; g-astragaloside II; h-astragaloside I.

附图4 蒙古黄芪黄酮和皂苷类 HPLC 图谱

Fig. S4 HPLC of flavonoids and saponins in *A. mongholicus*

附表1 样本转录组测序数据信息统计

Table S1 Sample transcriptome sequencing data statistics

	PS1	PS2	PS3	GS1	GS2	GS3
过滤前碱基总数 (G)	7.05	7.84	6.13	6.86	6.95	7.80
过滤后碱基总数 (G)	5.72	6.55	7.24	6.41	7.08	6.34
Q20 碱基占比(%)	99.09	99.20	99.20	99.14	99.24	99.15
Q30 碱基占比(%)	96.76	97.16	97.16	96.97	97.31	96.99
GC 含量(%)	44.59	44.23	44.34	45.10	46.28	45.19

附表2 蒙古黄芪茎表皮毛发育相关关键候选转录因子

Table S2 Key candidate transcription factors related to stem epidermal trichome development in *A. mongholicus*

转录因子家族	基因名称	基因 ID	Log <sub>2</sub> FC	q 值	表达量 (TPM)	
					PS	GS
HD-ZIPII	HAT1	DN39400_c0_g1	1.64	1.27×10 <sup>-7</sup>	2.14	5.67
MYB-related	ETC1	DN40755_c0_g1	1.02	8.82×10 <sup>-6</sup>	9.03	15.50
C2H2	GIS	DN39727_c0_g1	-1.07	1.47×10 <sup>-2</sup>	3.13	1.27
C2H2	GIS3	DN42225_c1_g1	-1.46	1.75×10 <sup>-10</sup>	8.04	2.50
NAC	NAC40	DN47683_c1_g1	-1.48	3.66×10 <sup>-25</sup>	15.77	5.03
C2H2	GIS3-like	DN42225_c0_g1	-3.05	5.8×10 <sup>-4</sup>	1.27	0.15

附表 3 蒙古黄芪黄酮和皂苷类方法学考察

Table S3 Methodological validation for flavonoids and saponins analysis in *A. mongholicus*

化合物	RSD(%)			
	稳定性	精密度	重复性	加样回收率
毛蕊异黄酮苷	0.37%	0.52%	0.28%	0.64%
芒柄花苷	1.59%	0.44%	1.61%	0.95%
毛蕊异黄酮	0.44%	0.42%	0.32%	2.19%
芒柄花素	0.72%	0.54%	1.09%	1.34%
黄芪甲苷	1.39%	1.36%	1.82%	2.15%
黄芪皂苷I	1.48%	1.95%	0.63%	1.01%
黄芪皂苷II	1.79%	1.33%	1.92%	0.77%
黄芪皂苷III	0.60%	1.29%	0.98%	2.78%