

Primer	Sequence (5'-3')
9F	GAGTTTGATCCTGGCTCAG
785F	GGATTAGATACCCTGGTAGTC
802R	TACCAGGGTATCTAATCC
1510R	GGCTACCTTGTTACGA
HAG-N1	ATGCARGAYAAAYATGATGTGGTGG
CS1	GTTCAATTTTTTCATTCTCACA
HAG-H1	ACCAAGTGATCAGCCATACCTC
HAG-I	TACGTCGCGGTAGTCACTCAC
HAG-N2	ATGATGTGGTGGCGNGGNGG
CS2	GTAATACGACTCACTATAGGG
HAG-F'1	AATCCTAAAGCCGACTGGTTCG
HAG-I3	ATAGCCAGATGCCGTCCAC
HAG-F'3	TACTATCTGCACAACCTCCTG
HAG-F'4	TCGACCTGCTCAACATGC
HAG-F'5	AACGCTTGGCAGGTGACG
HAG-F'6	TGGCGGTGCTGTTCTCACTG
HAG-R'1	ATGCCGTTTCAGATCGCCTAC
HAG-R'4	TCGCTTCCGGTGCACCCAG
pGEM-up-F	TCCATTCGCCATTCAGGCTG

pGEM-dn-R	TTCCGGCTCGTATGTTGTGTG
pET22b-IC-sense	ATATAGGCGCCAGCAACCGCACCTGT
pET22b-IC-anti	TAACCACCACACCCGCCGCGCTTAAT

1

SUPPLEMENTAL TABLE 2. Summary of HaG purification steps

Procedures	Total protein (mg)	Total activity (U)	Specific activity (U/mg)	Yield (%)	Purification (-fold)
Cell free extract	833	19.4	0.0234	100	1.00
DEAE-650M	24.8	2.21	0.0893	11.4	3.82
Butyl-650M	7.90	19.7	2.49	101	106
Ultrafiltration	6.54	7.07	1.08	36.4	46.2
Resource Q	0.922	1.09	1.19	5.63	50.9

2