Claims:

1. Isolated nucleic acid molecule comprising a functional chimeric gene regulatory unit comprising

(a) a functional enhancer nucleotide sequence comprising, consisting essentially of or consisting of (i) a nucleotide sequence as set forth in any one of SEQ ID NO:1; SEQ ID NO:2; SEQ ID NO:3; or a complement thereof; or (ii) a nucleotide sequence that shares at least 90% sequence identity with a nucleotide sequence of (i) or a complement thereof;

(b) a functional core promoter nucleotide sequence comprising, consisting essentially of or consisting of (i) a nucleotide sequence as set forth in any one of SEQ ID NO:4; SEQ ID NO:5; SEQ ID NO:6; SEQ ID NO:7; SEQ ID NO:8; or a complement thereof; or (ii) a nucleotide sequence that shares at least 90% sequence identity with a nucleotide sequence of (i) or a complement thereof; and

(c) at least one nucleotide sequence encoding for an intron comprising, consisting essentially of or consisting of (i) a nucleotide sequence as set forth in any one of SEQ ID NO:9; SEQ ID NO:10; SEQ ID NO:11; or a complement thereof; or (ii) a nucleotide sequence that shares at least 90% sequence identity with a nucleotide sequence of (i) or a complement thereof, wherein the enhancer nucleotide sequence is 5' to the promoter nucleotide sequence and the intron nucleotide sequence is 3' to the promoter sequence and wherein at least one nucleotide sequence of the enhancer nucleotide sequence, the promoter nucleotide sequence or the at least one nucleotide sequence encoding for the intron is derived from a different species than the other nucleotide sequences.

2. The isolated nucleic acid molecule of claim 1, further comprising at least one nucleotide sequence encoding for a polypeptide, peptide or RNA molecule, wherein said sequence is operably linked to the chimeric gene regulatory unit.

3. The isolated nucleic acid molecule of claim 2, wherein the at least one nucleotide sequence encoding for a polypeptide, peptide or RNA molecule of interest lies 3' to the intron nucleotide sequence.

4. The isolated nucleic acid molecule of claim 3, wherein the at least one nucleotide sequence encoding for a polypeptide, peptide or RNA molecule of interest lies directly adjacent to the intron sequence.

5. The isolated nucleic acid molecule of any one of claims 2-4, wherein the polypeptide of interest is a polypeptide chain of a naturally occurring or artificial immunoglobulin.

6. The isolated nucleic acid molecule of claim 5, wherein the polypeptide of interest is an antibody or fragment thereof.

7. The isolated nucleic acid molecule of claim 6, wherein the antibody is a human or humanized antibody, or a fragment thereof.

8. The isolated nucleic acid molecule of any one of claims 1 to 7, wherein the chimeric gene regulation unit has an increased resistance to transcriptional silencing.

9. The isolated nucleic acid molecule of any one of claims 1 to 8, wherein the isolated nucleic acid molecule further comprises at least one nucleotide sequence encoding for a recognition site of a restriction endonuclease.

10. The isolated nucleic acid molecule of claim 9, wherein the at least one nucleotide sequence encoding for a recognition site of a restriction endonuclease is (i) 3' to the enhancer nucleotide sequence and 5' to the promoter nucleotide sequence or (ii) 3' to the promoter nucleotide sequence and 5' to the at least one nucleotide sequence encoding for an intron.

11. The isolated nucleic acid molecule of any one of claims 1 to 10, wherein the enhancer sequence is derived from viruses, preferably from double-stranded DNA viruses.

12. The isolated nucleic acid molecule of claim 11, wherein the enhancer sequence is derived from viruses consisting of the group of Herpesviridae and Polyomaviridae.

13. The isolated nucleic acid molecule of claim 12, wherein the enhancer sequence is derived from the group consisting of human cytomegalovirus; murine cytomegalovirus; and simian virus 40.

14. The isolated nucleic acid molecule of any one of claims 1 to 13, wherein any one or more of the enhancer sequence, the promoter sequence and the intron are independently derived from human cytomegalovirus; murine cytomegalovirus; simian virus 40; the human EF-1α gene; or the chicken β-actin gene.

15. The isolated nucleic acid molecule of claim 14, wherein (i) the promoter is derived from human cytomegalovirus, murine cytomegalovirus, simian virus 40, the human EF-1α gene, or the chicken β-actin gene, (ii) the enhancer is derived from human cytomegalovirus, murine cytomegalovirus, or simian virus 40, and/or (iii) the intron sequence is derived from human cytomegalovirus, the human EF-1α gene, or the chicken β-actin gene.

16. The isolated nucleic acid molecule of any one of claims 1 to 15, wherein the chimeric gene regulatory unit comprises, consists essentially of or consists of

(1) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:4; and SEQ ID NO:11; or complements thereof;

(2) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:5; and SEQ ID NO:11; or complements thereof;

(3) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:4; and SEQ ID NO:11; or complements thereof;

(4) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:4; and SEQ ID NO:9; or complements thereof;

(5) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:5; and SEQ ID NO:11; or complements thereof;

(6) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:5; and SEQ ID NO:9; or complements thereof;

(7) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:7; and SEQ ID NO:11; or complements thereof;

(8) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:5; and SEQ ID NO:11; or complements thereof;

(9) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:7; and SEQ ID NO:9; or complements thereof;

(10) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:6; and SEQ ID NO:10; or complements thereof;

(11) the nucleotide sequences as set forth in SEQ ID NO:3; SEQ ID NO:7; and SEQ ID NO:10; or complements thereof;

(12) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:6; and SEQ ID NO:11; or complements thereof;

(13) the nucleotide sequences as set forth in SEQ ID NO:3; SEQ ID NO:5; and SEQ ID NO:10; or complements thereof;

(14) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:7; and SEQ ID NO:10; or complements thereof;

(15) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:6; and SEQ ID NO:11; or complements thereof;

(16) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:6; and SEQ ID NO:9; or complements thereof;

(17) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:7; and SEQ ID NO:11; or complements thereof;

(18) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:8; and SEQ ID NO:10; or complements thereof;

(19) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:5; and SEQ ID NO:10; or complements thereof;

(20) the nucleotide sequences as set forth in SEQ ID NO:3; SEQ ID NO:5; and SEQ ID NO:11; or complements thereof;

(21) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:5; and SEQ ID NO:9; or complements thereof;

(22) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:4; and SEQ ID NO:10; or complements thereof;

(23) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:7; and SEQ ID NO:11; or complements thereof;

(24) the nucleotide sequences as set forth in SEQ ID NO:2; SEQ ID NO:7; and SEQ ID NO:10; or complements thereof;

(25) the nucleotide sequences as set forth in SEQ ID NO:1; SEQ ID NO:5; and SEQ ID NO:10; or complements thereof; or

(26) a nucleotide sequence that shares at least 90% sequence identity with one nucleotide sequence of (1)-(25) or a complement thereof.

17. The isolated nucleic acid molecule of any one of claims 1 to 16, wherein the isolated nucleic acid molecule of the invention comprising the functional chimeric gene regulatory unit and the at least one nucleotide sequence encoding for a polypeptide, peptide or RNA molecule of interest has increased expression activity to express the polypeptide, peptide or RNA molecule of interest in CHO (Chinese Hamster Ovary) K1 or CHO DG44 cells compared to an isolated nucleic acid molecule comprising a naturally occurring gene regulatory unit and a nucleotide sequence encoding for the same polypeptide, peptide or RNA molecule of interest.

18. The isolated nucleic acid molecule of any one of claims 1 to 17, wherein the chimeric gene regulatory unit having increased expression activity in CHO K1 cells comprises, consists essentially of or consists of (i) a nucleotide sequence as set forth in SEQ ID NO: 30, SEQ ID NO: 35, SEQ ID NO:59, SEQ ID NO:60, SEQ ID NO:62, SEQ ID NO: 64, SEQ ID NO: 65; or

a complement thereof; or (ii) a nucleotide sequence that shares at least 90% sequence identity with a nucleotide sequence of (i) or a complement thereof.

19. The isolated nucleic acid molecule of any one of claims 1 to 18, wherein the chimeric gene regulatory unit having increased expression activity in CHO DG44 cells comprises, consists essentially of or consists of (i) a nucleotide sequence as set forth in SEQ ID Nos. 34, 36, 37, 45, 47-52, 56, 57, 59-62, 64-67, 71 or a complement thereof; or (ii) a nucleotide sequence that shares at least 90% sequence identity with a nucleotide sequence of (i) or a complement thereof.

20. The isolated nucleic acid molecule of any one of claims 1 to 19, wherein the promoter comprises at least one binding site for a transcription factor.

21. Vector comprising the isolated nucleic acid molecule of any one of claims 1-20.

22. Host cell comprising the isolated nucleic acid molecule of any one of claims 1-20 or the vector of claim 21.

23. The host cell of claim 22, wherein the host cell is a eukaryotic cell.

24. The host cell of claim 23, wherein the host cell is a CHO cell, preferably a CHO K1 cell or a CHO DG44 cell.

25. Use of the isolated nucleic acid molecule of any one of claims 1-20 for facilitating or enhancing the expression of a polypeptide, peptide or RNA of interest, wherein said isolated nucleic acid molecule comprises a nucleotide sequence encoding the polypeptide, peptide or RNA of interest, wherein said nucleotide sequence encoding the polypeptide, peptide or RNA of interest is operably linked to the chimeric gene regulatory unit of the isolated nucleic acid molecule.

26. Method of producing a polypeptide, peptide or RNA of interest comprising:

(i) providing the isolated nucleic acid molecule of any one of claims 1-20, wherein said isolated nucleic acid molecule comprises a nucleotide sequence encoding the polypeptide, peptide or RNA of interest, said nucleotide sequence encoding the polypeptide, peptide or RNA of interest being operably linked to the chimeric gene regulatory unit of the isolated nucleic acid molecule; and

(ii) producing the polypeptide, peptide or RNA of interest by *in vitro* transcription and translation or in a suitable host cell under conditions that allow production of the polypeptide, peptide or RNA of interest.

27. The method of claim 26, wherein the host cell is a eukaryotic cell.

28. The method of claim 27, wherein the eukaryotic cell is a CHO cell, more preferably a CHO K1 cell or a CHO DG44 cell.