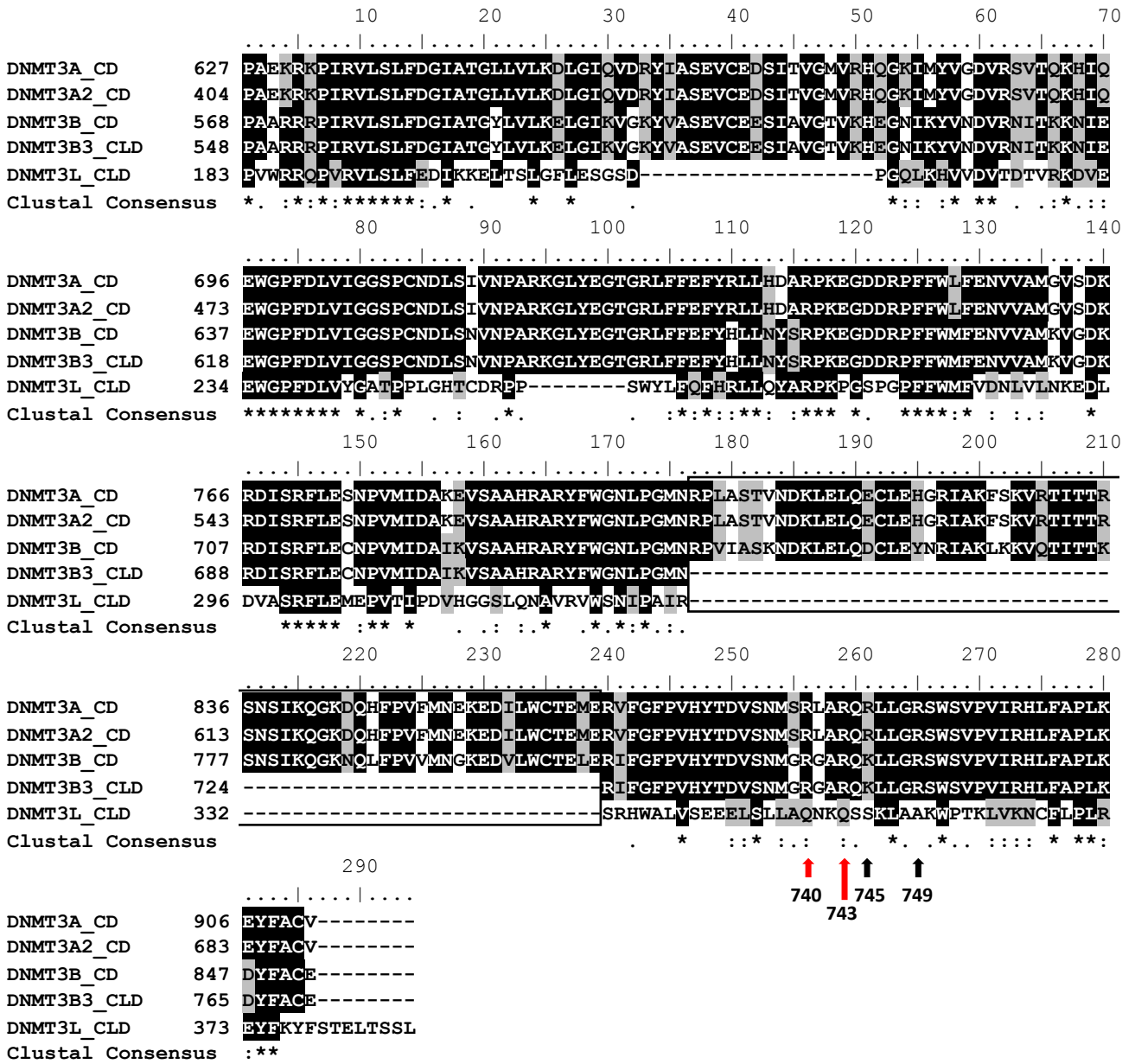


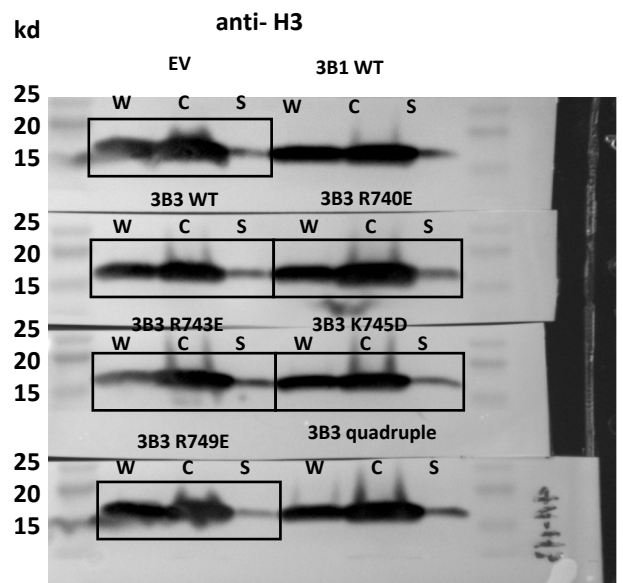
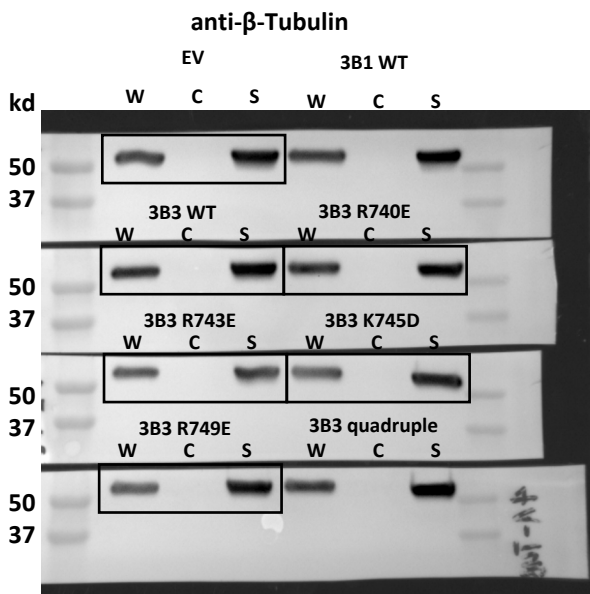
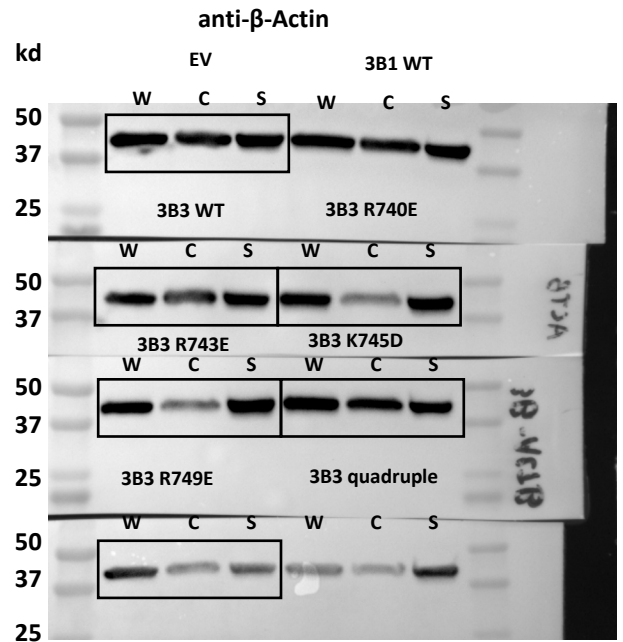
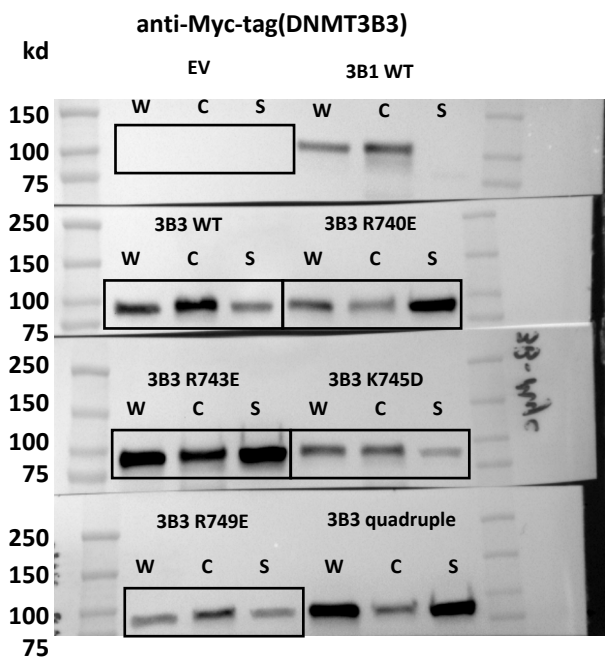
Supplementary Figure S1



Supplementary Figure S1. DNMT3 sequence alignment. Similar residues are shaded grey and identical residues are shaded black. The insertion domain is boxed, the acidic patch-interacting arginine finger residues (R740 and R743 in the context of full length DNMT3B3 and R823 and R826 in the context of full length DNMT3B1) are labeled with red arrows, and the control residues K745 and R749 are labeled with black arrows.

Supplementary Figure S2

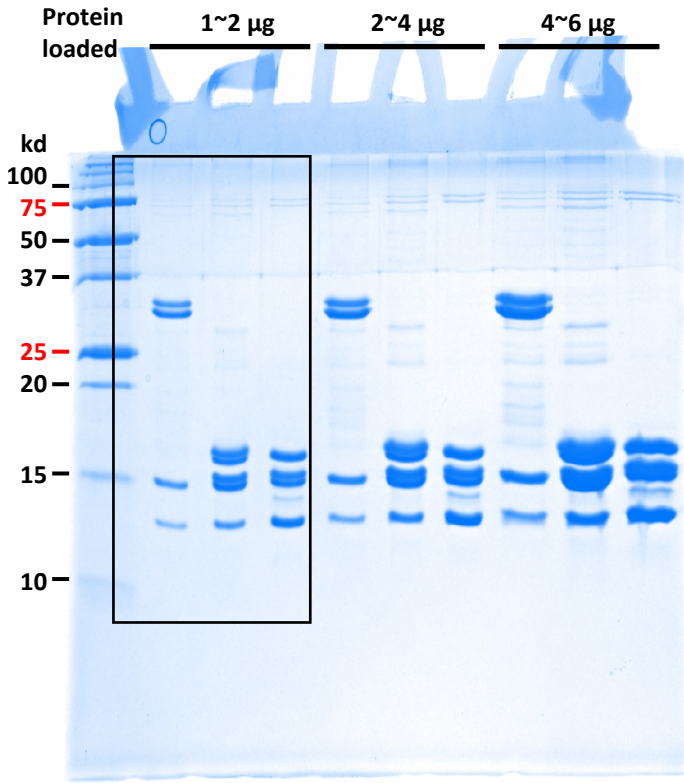
Fig. 4b



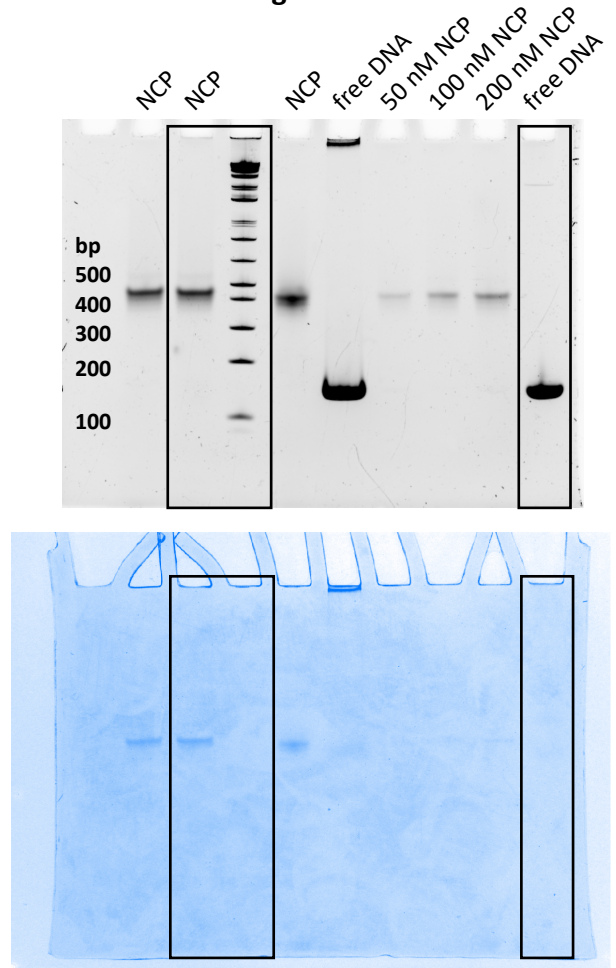
Supplementary Figure S2. Uncropped gel slices for Fig. 4b. Note that the gels were cut into 75 kD-top, 25-55 kd, and bottom-25 kd slices for separate probing with anti-Myc-tag(DNMT3B3) antibody, anti-β-actin/anti-β-tubulin antibody, and anti-histone H3 antibody, respectively. The boxed areas are the parts shown in Fig. 4b.

Supplementary Figure S3

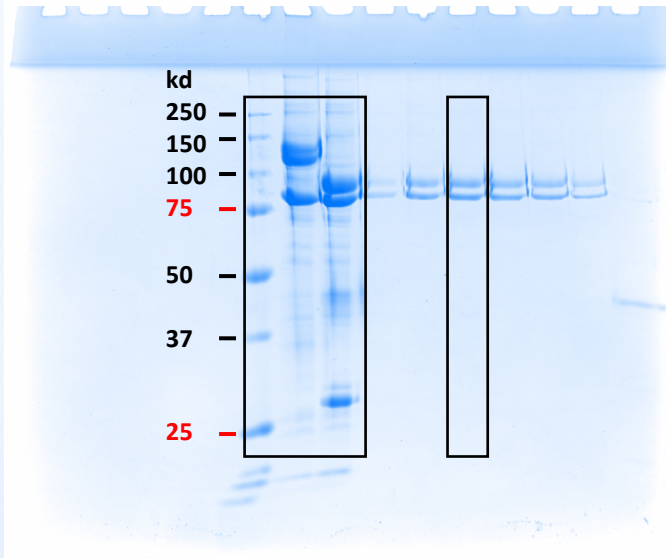
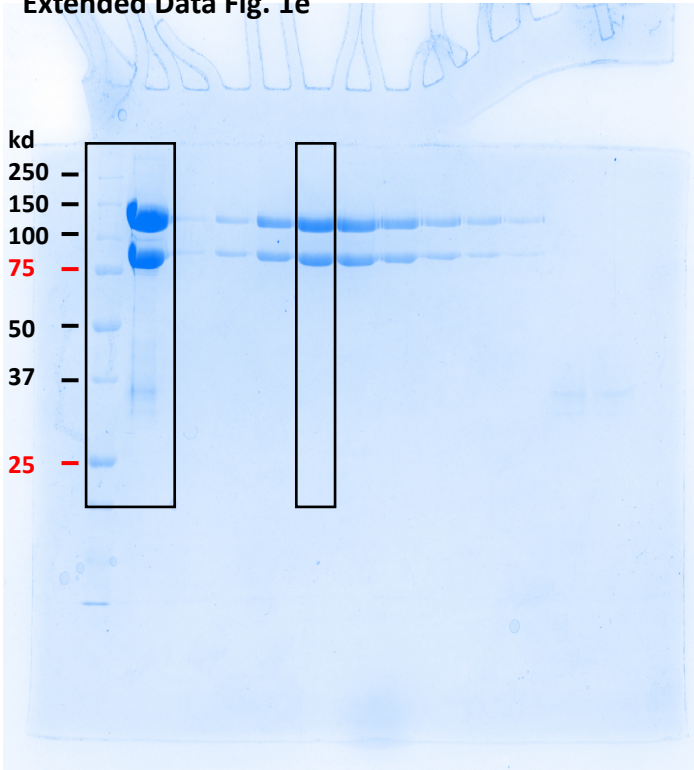
Extended Data Fig. 1a



Extended Data Fig. 1c



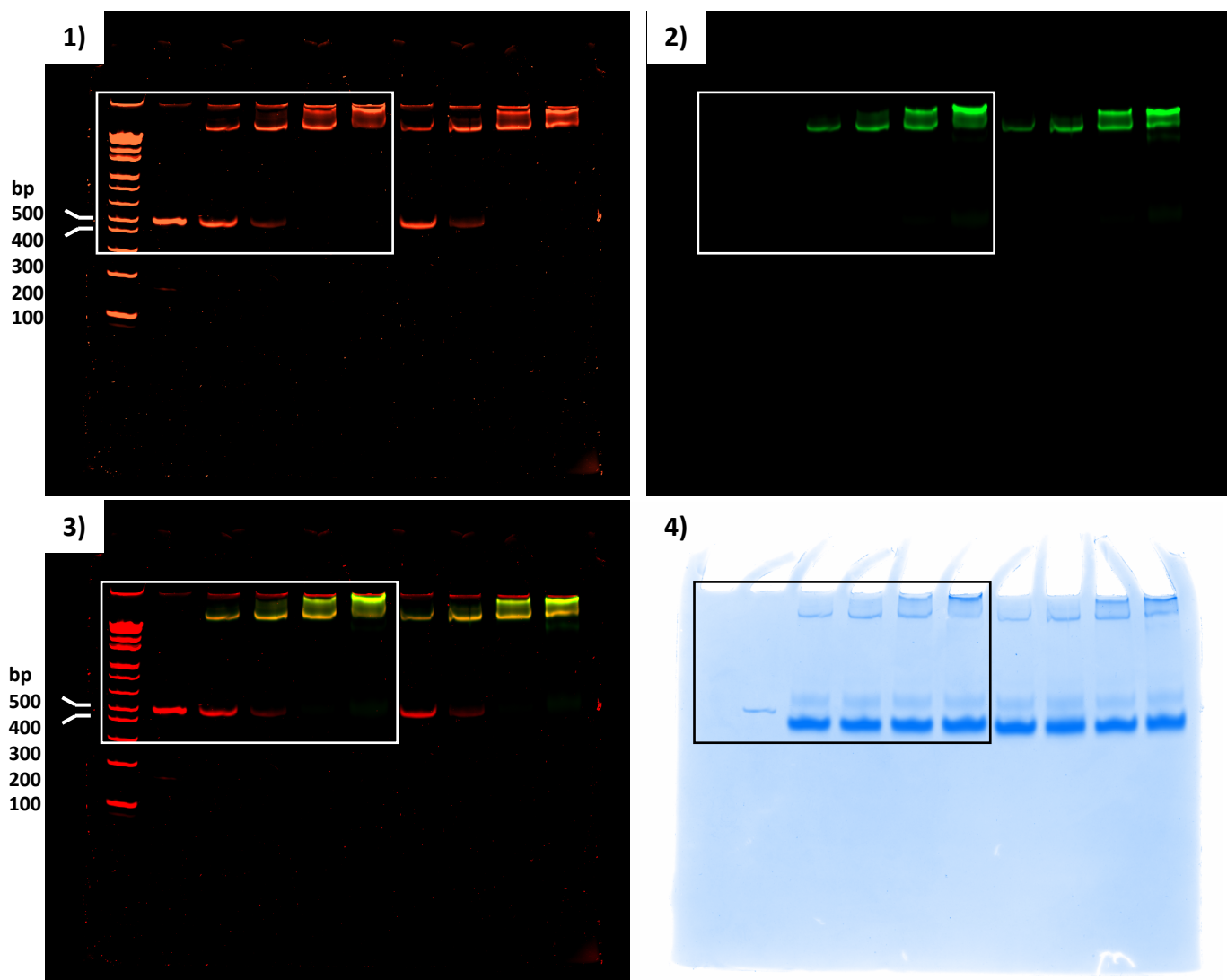
Extended Data Fig. 1e



Supplementary Figure S3. Uncropped gels for Extended Data Figs. 1a, 1c and 1e. The boxed areas are the parts shown in the respective panels.

Supplementary Figure S4

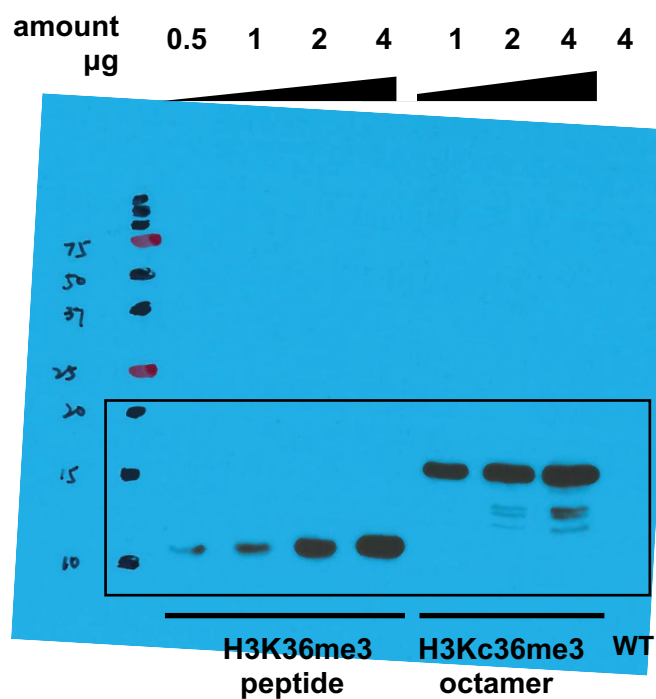
Extended Data Fig. 2b



Supplementary Figure S4. Uncropped gels for Extended Data Fig. 2b. The boxed areas are the parts shown in Extended Data Fig. 2b.

Supplementary Figure S5

Extended Data Fig. 9a



Supplementary Figure S5. Uncropped gels for Extended Data Fig. 9a. The boxed areas are the parts shown in Extended Data Fig. 9a

Supplementary Table S1

| Primers used for generate nucleosomal DNA template | |
|--|---|
| 147F | ATCTGAGAATCCGGTGCCG |
| 147R | ATCGGATGTATATATCTGACACGTGC |
| 167F | <u>ATCGGCCGCCCTGGAGAATC</u> |
| 167R | <u>ATCGGCCGCCACAGGATGTATATATC</u> |
| 171extendF | <u>ATCGGCCGCCta</u> CTGGAGAATCCCGGTGCCGAG |
| 171extendR | <u>ATCGGCCGCCtg</u> ACAGGATGTATATATCTGACACGTGCCTGG |
| 171F | <u>ATCGGCCGCCta</u> CTGGAG |
| 171R | <u>ATCGGCCGCCtg</u> ACAGGATG |
| 5YX2F | <u>ATCCATGCGTTCTAATTAGAACGCATG</u> CTGGAGAATCCCGGTGCCGAGG |
| 5Yx2R | <u>ATCCATGCGTTCTAATTAGAACGCATG</u> ACAGGATGTATATATCTGACACGTGCCTGG |
| 301extendF | <u>GATAGACAGCTGCTGAACCAATGGGACCAAGCTTCACACCGAGTTCATCGCTTATGTG</u> <u>ATCGACCATCGGCCGCCTACTGGAGAATC</u> |
| 301extendR | <u>GCCAGTTGGGCAGAAGCTTTCGGAACACTATCCGACTGGCACCGGCAAGGTCGCTG</u> <u>TTCAATACAATCGGCCGCCTGACAGGATG</u> |
| 301F | GATAGACAGCTGCTGAACCAATGGG |
| 301R | GCCAGTTGGGCAGAAGCTTTC |

The linker DNA sequences are underlined.