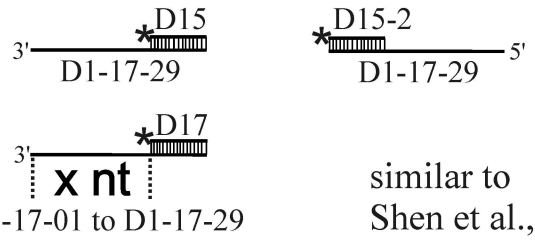
Fig. S1

Partial duplex DNA substrates

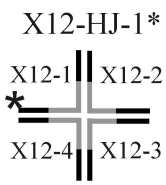


similar to
Shen et al., 1998

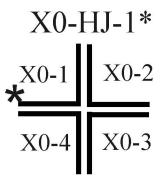
M13-DNA based substrate

Kobbe et al., 2008

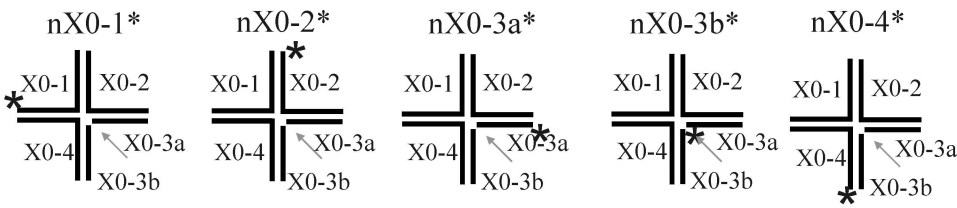
Holliday Junction substrates



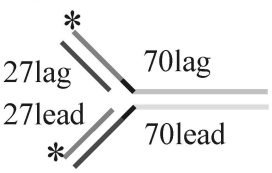
e.g. Mohaghegh et al., 2001



e.g. Boddy et al., 2001;
Gaillard et al., 2003

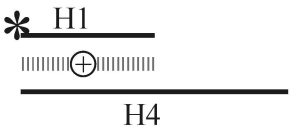


Replication fork substrate



e.g. Machwe et al., 2006

Annealing substrate



e.g. Van Komen et al., 2003

Fig. S1. Structure of the DNA substrates used in this study

The composing oligonucleotides of the different DNA structures are indicated. Sequences are given in Table SI.

Fig. S2

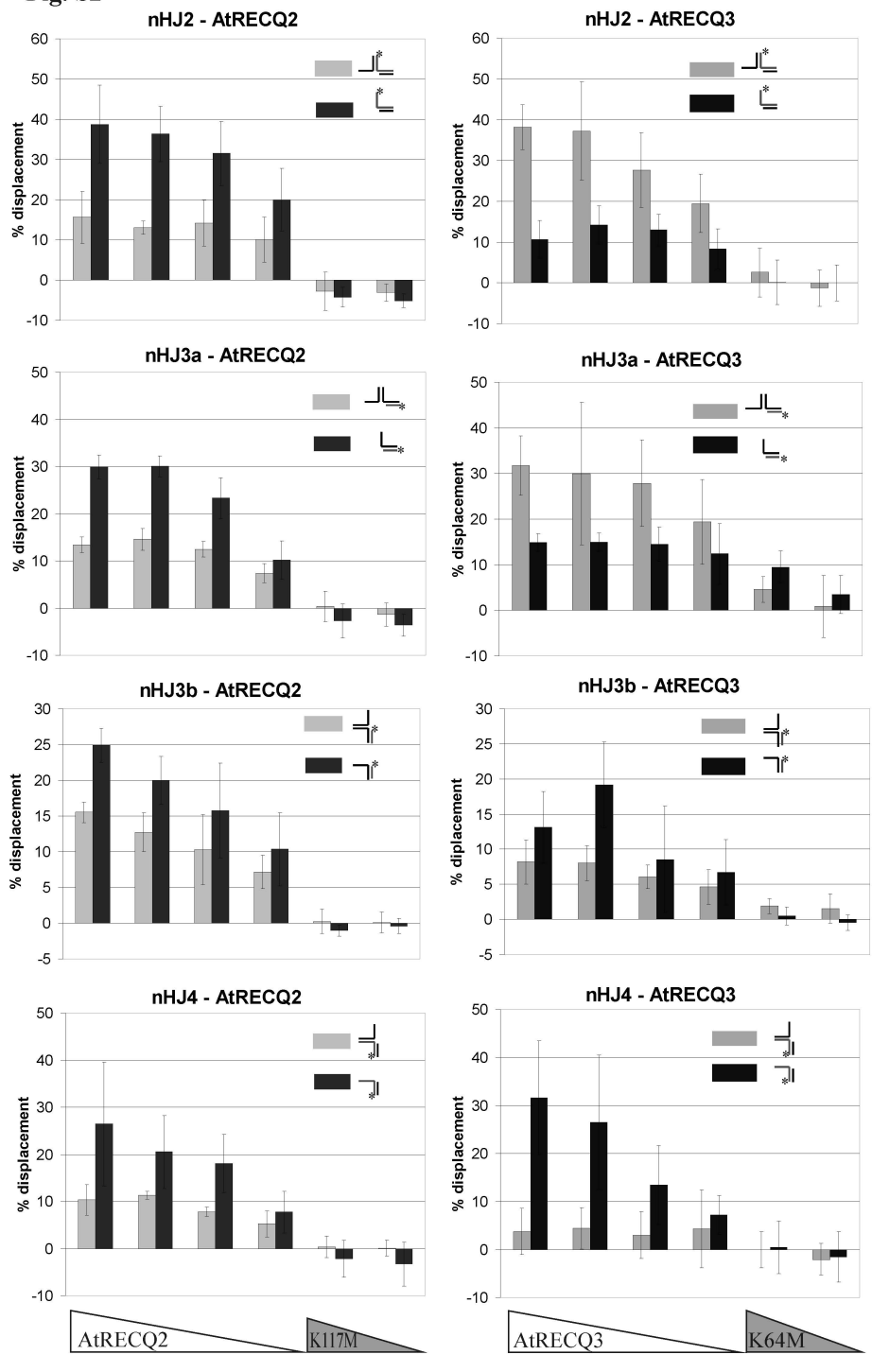


Fig. S2. Concentration dependency of processing of the nX0 Holliday junction.

The differently labeled nX0 junction was incubated with decreasing concentrations of AtRECQ2 and AtRECQ3 (8 nM, 5 nM, 4 nM, 2.5 nM), AtRECQ2-K117M (5 nM, 4nM), and AtRECQ3-K64M (8 nM, 5 nM) for 30 min in the presence of 1.35 mM $MgCl_2$. The main products were quantified from at least three experiments, and the means and the standard deviations are given.

Table SI. Sequences of the oligonucleotides used for the preparation of the DNA substrates

Name	Sequence
D1-17-29	5´-GC GCG GAA GCT TGG CTG CAGAA TATTG CTAGC GGGAA TTCGG CGCG
D1-17-21	5´-GC GCG GAA GCT TGG CTG CAGAA TATTG CTAGC GGGAA T
D1-17-16	5´-GC GCG GAA GCT TGG CTG CAGAA TATTG CTAGC G
D1-17-12	5´-GC GCG GAA GCT TGG CTG CAGAA TATTG CT
D1-17-09	5´-GC GCG GAA GCT TGG CTG CAGAA TATT
D1-17-06	5´-GC GCG GAA GCT TGG CTG CAGAA T
D1-17-03	5´-GC GCG GAA GCT TGG CTG CAG
D1-17-01	5´-GC GCG GAA GCT TGG CTG C
D15	5´-G CCA AGC TTC CGC GC
D15-2	5´-CGCG CCGAA TTCCC G
D17	5´-CAG CCA AGC TTC CGC GC
D5	5´-AAAAAAAAAA GTCGACTCTAGAGGATC AAAAAAAAAA
X12-1	5´-GACGC TGCCG AATTC TGGC**T** **TGCTA** GGACA TCTTT GCCCA CGTTG ACCCG
X12-2	5´-CGGGT CAACG TGGGC AAAGA TGTCC **TAGCA A**TGTA ATCGT CTATG ACGTC
X12-3	5´-GACGT CATAG ACGAT TACA**T** **TGCTA** GGACA TGCTG TCTAG AGACT ATCGC
X12-4	5´-GCGAT AGTCT CTAGA CAGCA TGTCC **TAGCA A**GCCA GAATT CGGCA GCGTC
nX0-1	5´-GAA CGT CAT AGA CGA TTA CAT TGC TAC ATG GAG CTG TCT AGA GGA TCC GA
nX0-2	5´-GTC GGA TCC TCT AGA CAG CTC CAT GAT CAC TGG CAC TGG TAG AAT TCG GC
nX0-3	5´-TGC CGA ATT CTA CCA GTG CCA GTG ATG GAC ATC TTT GCC CAC GTT GAC CC
nX0-4	5´-TGG GTC AAC GTG GGC AAA GAT GTC CTA GCA ATG TAA TCG TCT ATG ACG TT
nX0-3a	5´-TGC CGA ATT CTA CCA GTG CCA GTG AT
nX0-3b	5´-GGA CAT CTT TGC CCA CGT TGA CCC
70lag	5´-GCTATCGTACATGATATCCTCACACTCTGAATAGCCGAATTCTTAGGGTTAGGGTTAACATCAAGTCACG
27lag	5´-GAGTGTGAGGATATCATGTACGATAGC
70lead	5´-CGTGACTTGATGTTAACCCTAACCCTAAGAATTCGGCTTAAGTGAGTGTGAGGATATCATGTACGATAGC
27lead	5´-GCTATCGTACATGATATCCTCACACTC
S-40a	5´-ATTAAGCTCTAAGCCATGAATTCAAATGACCTCTTATCAA
S-40b-5	5´-ATGTCACTATTGAAGCGCTGATCACTGTCTCCATCGAACGTTGATAAGAGGTCATTTGAATTCATGGCTTAGAGCTTAAT