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| --- |
| **TREX1-dI-ssDNA complex** |
| Protein : non-His-tagged TREX1Input DNA:5′- TTATAIG -3′Time of growth: 2 weeksCondition: 0.1 M MES monohydrate pH 6.0, 20% w/v Polyethylene glycol monomethyl ether 2,000Activity of TREX1: Reduced | Input DNA | DNA in the structurea |
|  |  |
| **TREX1-dI-T-dsDNA complex** |
| Protein : non-His-tagged TREX1Input DNA : 5′- AAAGTGGCCCTCTTTAGGGCCIC -3′Time of growth: 3 to 9 weeksCondition: 0.2 M Potassium citrate tribasic monohydrate, pH 8.3, 20 % w/v Polyethylene glycol 3,350Activity of TREX1: Inhibited | Input DNA | DNA in the structurea |
|  |  |
| **TREX1-L-structural dsDNA complex** |
| Protein : His-tagged TREX1Input DNA : 5′- GGCCCTCTTTAGGGCCTTC -3′Time of growth: 2-3 weeksCondition: 0.1 M BICINE pH 8.5, 20% w/v Polyethylene glycol 10,000Activity of TREX1: Enhanced  | Input DNA | DNA in the structurea, b |
|  |  |
| **TREX1-Y-structural dsDNA complex** |
| Protein : His-tagged TREX1Input DNA : 5′- GTTGGCCCTCTTTAGGGCCATC -3′Time of growth: 2-6 weeksCondition: 0.1 M Sodium acetate trihydrate pH 4.5, 30% v/v Polyethylene glycol 300Activity of TREX1: Inhibited | Input DNA | DNA in the structurea |
|  |  |

**S1 Table.** **Crystallization conditions of TREX1-structural DNA complexes**

a DNAs displayed in gray are the disordered regions in the structures.

b In the crystal of the TREX1-L-structural dsDNA complex, the input stem loop DNA was exonucleolytically digested by TREX1 into two small ssDNA fragments, including ssDNA with lengths of 6 and 9 nt (6 nt ssDNA: 5′-GGCCCT-3′; 9 nt ssDNA: 5′-GGCCCTCTT-3′). Two ssDNAs are annealed together to form a duplex DNA with 1-nt- and 4-nt-long 3′-overhangs. Each terminus displays an L-shape conformation.