
NSMCE2 Antibody Blocking Peptide

Catalog Number: bs-9544P

Activity: Not tested

Purification: HPLC

Storage: Shipped at 4°C. Stored at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: Breaks in double stranded DNA often arise during DNA replication or as a result of exposure to DNA-damaging agents. Quick and accurate repair of these breaks is crucial for cell survival and genomic stability. Structural maintenance of chromosomes (SMC) family members form heterodimeric complexes that modulate sister chromatid cohesion and chromosome condensation during mitosis. SMC5 and SMC6 play a crucial role in DNA repair as they form a complex with six conserved nonSMC subunits, including a ubiquitin E3 ligase NSE1 and a SUMO ligase NSE2. Specifically, this complex is crucial for sister chromatid homologous recombination DNA repair and also for prevention of chromosomal rearrangements. The NSE1 protein contains a RING-like motif that promotes DNA repair functions of the SMC5/SMC6 complex and full deletion of NSE1 is lethal to cells. NSE2 stimulates sumoylation of SMC6 and the DNA repair protein TRAX. Depletion of the NSE2 protein by RNA interference leaves the cell vulnerable to DNA damage-induced apoptosis.