

Mouse anti-cruciform DNA, #MM-0027

DATASHEET

Product name: cruciform DNA antibody

Background information: Inverted repeat sequences are known to form cruciform structures in negatively supercoiled DNA (for review: McLean and Wells, 1988; Pearson et al, 1996). They are widespread in the genomes of both eukaryotes and prokaryotes, occurring more often than expected among random sequence (Schroth and Ho, 1995). In some bacteria, extrusion of cruciform DNA is required for initiation of replication and transcription (Jin et al., 1997; Glucksmann et al., 1992; Kim et al., 1998), though certain inverted repeat sequences are unstable when subcloned into bacteria (Lockson and Galloway, 1986; Schaaper et al., 1986). Because such structures might impair DNA replication fidelity, the role of inverted repeats in mutagenesis and in human diseases has been widely studied (for review: Bissler 1998).

Product description: A highly specific and sensitive antibody against cruciform DNA. The antibody is in protein free culture medium.

Format: 750 µg of lyophilized antibody. Reconstitute in distilled H₂O. Contains no additives.

Species: Mouse

Clonality: Monoclonal

Isotype: IgG2a

Reactivity / specificity: the antibody recognizes cruciform DNA.

Applications: Electrophoretic Mobility Shift Assay (EMSA), Western blot (WB)

Recommended starting dilutions: EMSA 5-10 µg per sample. Optimal dilution has to be determined by the user.

Storage: Avoid freeze-thaw cycles. Product should be stored aliquoted at -20°C. For long term storage -80°C should be used.

Stability: Minimum 1 year from reception date.

References:

1. Frappier, L., Price, G.B., Martin, R.G. and Zannis-Handjopoulos, M. Characterization of the binding specificity of two anticruciform DNA monoclonal antibodies (1989) *J. Biol. Chem.* 264, 334-341.
2. Kim EL, Peng H, Esparza FM, Maltchenko SZ, Stachowiak MK. Cruciform-extruding regulatory element controls cell-specific activity of the tyrosine hydroxylase gene promoter. *Nucleic Acids Res.* 1998 Apr 1;26(7):1793-800.
3. Alvarez D, Novac O, Callejo M, Ruiz MT, Price GB, Zannis-Hadjopoulos M. The 14-3-3 protein homologues from *Saccharomyces cerevisiae*, Bmh1p and Bmh2p, have cruciform DNA-binding activity and associate in vivo with ARS307. *J Cell Biochem.* (2002) ;87(2):194-207.
4. Tam M, Erin Montgomery S, Kekis M, Stollar BD, Price GB and Pearson CE. Slipped (CTG)_n(CAG)_n repeats of the myotonic dystrophy locus: surface probing with anti-DNA antibodies. *J Mol Biol.* 2003 Sep 19;332(3):585-600.

Limitations: This product is to be used for *in vitro* research purposes only.



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