SANTA CRUZ BIOTECHNOLOGY, INC.

ds DNA Marker (AE-2): sc-80772

BACKGROUND

Deoxyribonucleic acid (DNA) is a long polymer of nucleotides that is held together by a backbone made of sugars and phosphate groups. It holds the genetic instructions for the development and function of living things. DNA is crucial for living organisms, and all known cellular life and some viruses contain DNA. In eukaryotes, DNA exists in the cell nucleus, while in prokaryotes, DNA is located in the cytoplasm. In living organisms, DNA does not usually exist as a single molecule, but instead as a tightly-associated pair of molecules in the shape of a right-handed double helix. The two DNA strands are held together by hydrogen bonds as well as forces generated by the hydrophobic effect and pi stacking. During replication and transcription, portions of the helix unwind and become single stranded. These single-stranded DNA are surrounded by protective proteins. Double stranded (ds) DNA markers are useful tools in biology research and aid in the study of DNA behavior and characteristics.

REFERENCES

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2. Pabo, C.O. and Sauer, R.T. 1984. Protein-DNA recognition. Annu. Rev. Biochem. 53: 293-321.
3. Jeffreys, A.J., Wilson, V. and Thein, S.L. 1985. Individual-specific "fingerprints" of human DNA. Nature 316: 76-79.
4. Bickle, T.A. and Krüger, D.H. 1993. Biology of DNA restriction. Microbiol. Rev. 57: 434-450.
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6. Isaksson, J., Acharya, S., Barman, J., Cheruku, P. and Chattopadhyaya, J. 2004. Single-stranded adenine-rich DNA and RNA retain structural characteristics of their respective double-stranded conformations and show directional differences in stacking pattern. Biochemistry 43: 15996-16010.
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8. Pidoux, A.L. and Allshire, R.C. 2005. The role of heterochromatin in centromere function. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 360: 569-579.
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SOURCE

ds DNA Marker (AE-2) is a mouse monoclonal antibody raised against double stranded DNA from Raji Burkitt's lymphoma cells of human origin.

PRODUCT

Each vial contains 50 µg IgG_3 in 500 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ds DNA Marker (AE-2) is recommended for detection of ds DNA of broad species origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

SELECT PRODUCT CITATIONS

1. Wei, B., Xu, L., Guo, W., Wang, Y., Wu, J., Li, X., Cai, X., Hu, J., Wang, M., Xu, Q., Liu, W. and Gu, Y. 2021. SHP2-mediated inhibition of DNA repair contributes to cGAS-STING activation and chemotherapeutic sensitivity in colon cancer. Cancer Res. 81: 3215-3228.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.