COSMO BIO CO., LTD.
Inspiration for Life Science

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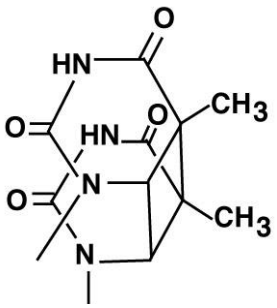
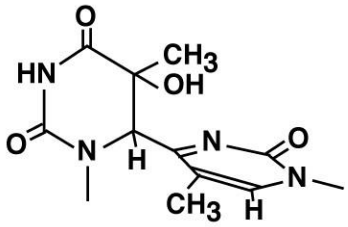
Catalog No. NM-MA-R010

UVC-Irradiated DNA Samples [0, 2.5, 5, 7.5, 10 J/m^2]

"UVC-Irradiated DNA Samples" were made by irradiating calf thymus DNA with various doses of UVC (mainly 254 nm) including 0, 2.5, 5, 7.5 and 10 J/m^2. Two major DNA damage, cyclobutane pyrimidine dimers (CPD) and (6-4) photoproducts (6-4PP), are formed in UV-irradiated DNA. These DNA samples are useful to make a standard dose-response curve in ELISA or other immunological assays.



Cyclobutane
Pyrimidine dimer
(CPD)



(6-4)photoproduct
(6-4PP)

Figure 1: Structures of typical UV-induced DNA damage in thymine-thymine sequence

Kit components

Color code	UV dose	Size	Quantity	Form	Storage Conditions
○	0 J/m^2	10 UG 20 µg/mL, 500 µL/tube	1 vial	Liquid (TE Buffer)	Store at -20 ºC in the dark. It is stable for at least 1 year when stored at -20 ºC. It should be divided into small quantity to avoid many freezing and thawing. Protect from the light.
●	2.5 J/m^2	10 UG 20 µg/mL, 500 µL/tube	1 vial	Liquid (TE Buffer)	
●	5.0 J/m^2	10 UG 20 µg/mL, 500 µL/tube	1 vial	Liquid (TE Buffer)	
●	7.5 J/m^2	10 UG 20 µg/mL, 500 µL/tube	1 vial	Liquid (TE Buffer)	
●	10.0 J/m^2	10 UG 20 µg/mL, 500 µL/tube	1 vial	Liquid (TE Buffer)	

Recommended concentration for ELISA

DNA damage	UVC-Irradiated DNA Samples		Recommended Antibody
	Concentration	Volume	
CPD	0.2-0.4 µg/mL	50 µL/well (10-20 ng/well)	Anti-CPDs (Clone:TDM-2) Cat # NM-DND-001
6-4PP	4 µg/mL	50 µL/well (200 ng/well)	Anti-6-4PPs (Clone:64M-2) Cat # NM-DND-002

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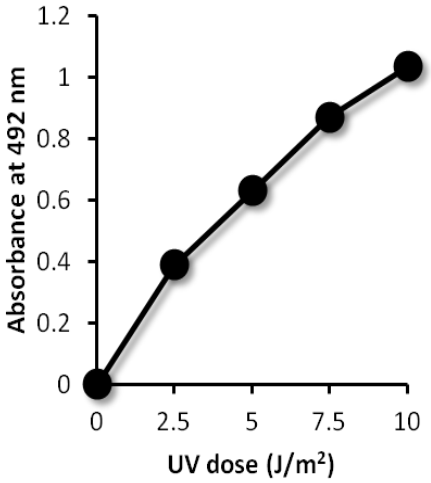
Example of DNA sample coating to the PROTAMINE SULFATE COATED ELISA PLATE

Prepare sample DNA solutions and UVC-irradiated DNA sample solutions at the recommended DNA concentration using PBS. Denature DNA samples by heating at 100 ºC for 10 minutes, then chill rapidly in an ice bath for 15 minutes. Apply 50 µL of denatured DNA sample to each well of the protamine sulfate-coated plate (Cat # NM-MA-P001) and dry completely in a 37 ºC dry incubator.

Results



CPDs formed in UVC-irradiated DNA samples were detected using ELISA with anti-CPD antibody (Clone: TDM-2). CPD formation in DNA was increased in a dose-dependent manner.

Related product

Product Name	Maker	Cat#
High Sensitivity 6-4PP / (6-4)Photoproducts ELISA kit ※with OPD	CSR	NM-MA-K002
High Sensitivity CPD (Cyclobutane Pyrimidine Dimer) ELISA kit Ver.2	CSR	NM-MA-K003
High Sensitivity 6-4PP / (6-4)Photoproducts ELISA kit (TMB)	CSR	NM-MA-K004
Anti cyclobutane pyrimidine dimers (CPDs) Monoclonal Antibody (Clone：TDM-2)	CAC	NM-DND-001
Anti (6-4) photoproducts (6-4PPs) Monoclonal Antibody (Clone：64M-2)	CAC	NM-DND-002
Anti Dewar photoproducts (DewarPPs) Monoclonal Antibody (Clone：DEM-1)	CAC	NM-DND-003
Anti Acetylaminofluorene(AAF)-DNA adducts Monoclonal Antibody (Clone：AAF-1)	CAC	NM-MA-001
UVC-Irradiated DNA Samples (0, 2.5, 5, 7.5, 10 J/m^2)	CSR	NM-MA-R010
PROTAMINE SULFATE COATED ELISA PLATE 96	CSR	NM-MA-P001
PROTAMINE SULFATE COATED ELISA PLATE 96 x 5	CSR	NM-MA-P002
PROTAMINE SULFATE COATED ELISA PLATE 96 x 10	CSR	NM-MA-P003

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