

UVC-Irradiated DNA Samples [0, 2.5, 5, 7.5, 10 J/m²]

“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/m². 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.

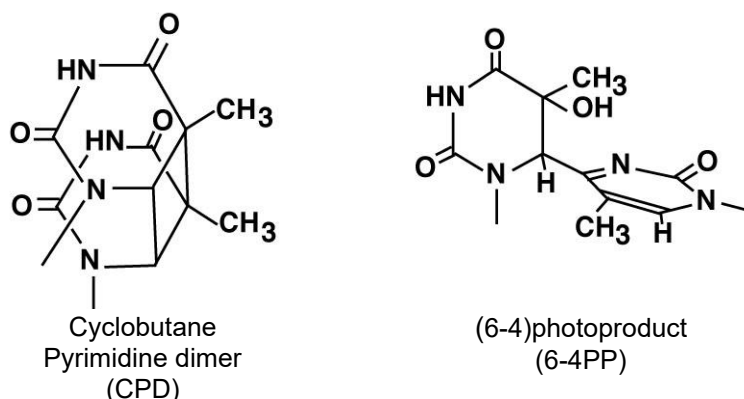


Figure 1: Structures of typical UV-induced DNA damage in thymine-thymine sequence

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 °C in the dark.
	2.5 J/m ²	10 UG 20 µg/mL, 500 µL/tube	1 vial	Liquid (TE Buffer)	It is stable for at least 1 year when stored at -20 °C. It should be divided into small quantity to avoid many freezing and thawing. Protect from the light.
	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)	

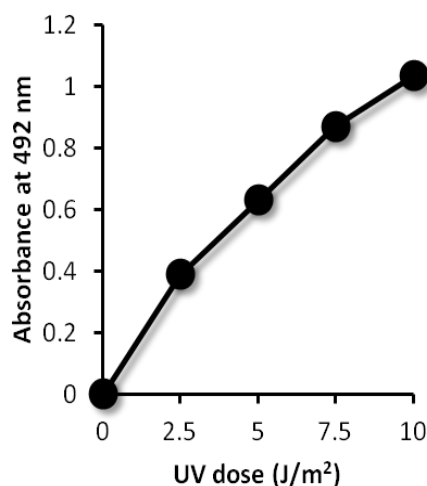
Recommended concentration for ELISA

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

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 °C 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 °C 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 Ver.2 ※with OPD	CSR	NM-MA-K002V2
High Sensitivity CPD (Cyclobutane Pyrimidine Dimer) ELISA kit Ver.3	CSR	NM-MA-K003V3
High Sensitivity 6-4PP / (6-4)Photoproducts ELISA kit (TMB) Ver.2	CSR	NM-MA-K004V2
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/m²)	CSR	NM-MA-R010
PROTAMINE SULFATE COATED ELISA PLATE 96 x 10	CSR	NM-MA-P003

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