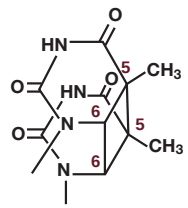
High sensitivity ELISA kit for measuring UV-induced DNA damage

High Sensitivity CPD ELISA Kit

— Cyclobutane Pyrimidine Dimer —
with mAb clone TDM-2

New

Cosmo Bio's new Cyclobutane Pyrimidine Dimer (CPD) ELISA Kit uses the highly sensitive and specific monoclonal anti-CPD antibody clone TDM-2, established by Mori *et al*. TDM-2 is widely cited in the literature and is considered to be the gold standard antibody for CPD detection and quantification. Cosmo Bio's CPD ELISA Kit is the first and only commercially available ELISA kit using TDM-2. All components are optimized for high sensitivity CPD detection from cultured cells or skin epidermis.

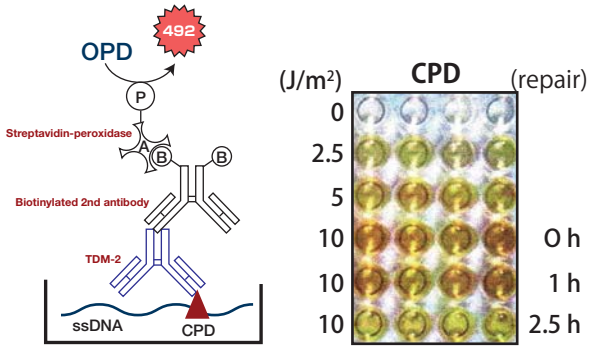


Cyclobutane
Pyrimidine Dimer (CPD)

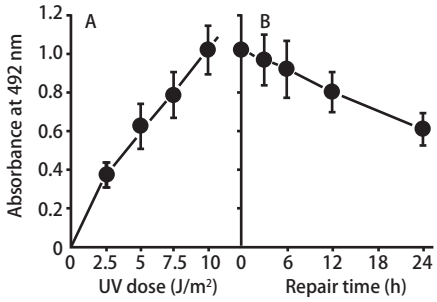
Features

- TDM-2 Monoclonal Antibody
- Recognizes CPD in every dipyrimidine sequence context
- High Sensitivity
- Positive and Negative CPD standards
- Protamine Sulfate coated plates for strong DNA binding
- 1 year shelf life for unopened kit (store at 4℃)

Experiment Example



Genomic DNA is purified from UV-damaged cells and denatured DNA is used to coat wells of a 96 well plate. The binding of TDM-2 to DNA damage CPDs is detected by sequential treatment with biotinylated 2nd antibody and streptavidin-peroxidase. Then, the absorbance of colored products derived from OPD is measured at 492 nm.



Formation and repair of UV-induced CPDs in human cells measured by ELISA.
UVC radiation induces CPDs in DNA of HeLa cells in dose-dependent manner.The initial level of CPDs induced by 10 J/m² of UVC gradually decreases over time as CPDs are repaired, indicating the capacity of nucleotide excision repair in HeLa cells.

Description		Cat. No.	Quantity
High Sensitivity CPD ELISA Kit	New	CSR-NM-MA-K001	1 kit (96 test)
High Sensitivity 6-4PP ELISA Kit	coming soon	CSR-NM-MA-K002	1 kit (96 test)

Standard DNA: DNA Controls, Negative (0 J/m² 1 vial) and (Positive (2.5, 5, 7.5, 10 J/m² each 1 vial).
This Kit include only Negative DNA (0 J/m²) and Positive DNA (10 J/m²). Standard DNA is also available separately.

Description		Cat. No.	Quantity
UVC irradiated DNA Sample (0, 2.5, 5, 7.5, 10 J/m²)	New	CSR-NM-MA-R010	1 set

COSMO BIO CO., LTD.

Monoclonal Antibodies against DNA Damage

Powerful tools for studying DNA damage and its biological effects

Monoclonal antibodies against UV-induced DNA Damage

Anti Cyclobutane Pyrimidine Dimers (CPDs) [Clone : TDM-2]
Anti (6-4) photoproducts (6-4PPs) [Clone : 64M-2]
Anti Dewar photoproducts (DewarPPs) [Clone : DEM-1]

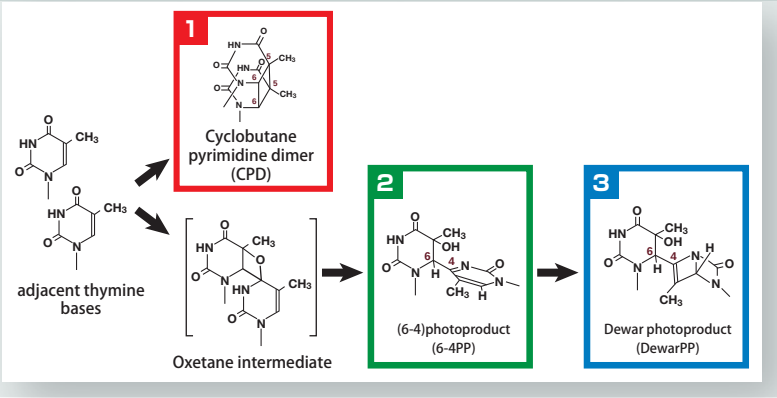
Prolonged exposure to solar UV radiation may result in acute and chronic health effects to the skin, eye, and immune system, including skin cancers. These harmful effects are suggested to be closely related to DNA damage. The major types of DNA damage induced by solar UV radiation are cyclobutane pyrimidine dimers (CPDs), (6-4) photoproducts (6-4PPs), and Dewar photoproducts (DewarPPs), which are formed between adjacent pyrimidine nucleotides on the same strand of DNA. These helix-distorting DNA lesions are repaired exclusively by a nucleotide excision repair system in humans. Mori *et al.* have developed and characterized monoclonal antibodies specific for CPDs and for 6-4PPs. Matsunaga *et. al.* have established and characterized monoclonal antibodies against DewarPPs. These antibodies enable one to quantitate photoproducts in DNA purified from cultured cells or from skin epidermis using an enzyme-linked immunosorbent assay (ELISA) and to visualize and measure photoproducts in DNA from cultured cells or skin samples using indirect immunofluorescence. Thus, this technology will contribute to understanding the molecular mechanisms of cellular responses to UV light and DNA damage in many research fields including cancer research, photobiology, dermatology, ophthalmology, immunology, and cosmetic science.

Features

- Highly specific for the target lesion
- Research applications include ELISA, IF and IHC
- Useful for research in DNA damage and repair
- Allows visualization of the DNA repair process
- Applicable to a broad range of research fields including cancer research, photobiology, dermatology, ophthalmology, immunology, and cosmetology

Reference
1) Mori, T., *et al.*, *Photochem. Photobiol.* **54**, 225-232 (1991).
2) Matsunaga, T., *et al.*, *Photochem. Photobiol.* **54**, 403-410 (1991).

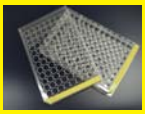
More than 200 papers using these antibodies have been published so far.



	Description	Host	clone	application	Cat. No.	Quantity
1	Anti CPDs	Mouse	TDM-2	ELISA / IC	CSR-NM-DND-001	1 vial
2	Anti 6-4PPs	Mouse	64M-2	ELISA / IC	CSR-NM-DND-002	1 vial
3	Anti DewarPPs	Mouse	DEM-1	ELISA / IC	CSR-NM-DND-003	1 vial

Useful for ELISA assays with DNA damage antibodies

PROTAMINE SULFATE COATED ELISA PLATE



Protamine sulfate is a small cationic protein that binds to negatively charged DNA. Protamine sulfate coated wells capture sample DNA more efficiently; a critical step in the accurate and reproducible determination of DNA damage detection by ELISA.

Description	Cat. No.	Quantity
PROTAMINE SULFATE COATED ELISA PLATE 96	CSR-NM-MA-P001	1 plate
PROTAMINE SULFATE COATED ELISA PLATE 96×5	CSR-NM-MA-P002	5 x 1 plate
PROTAMINE SULFATE COATED ELISA PLATE 96×10	CSR-NM-MA-P003	10 x 1 plate

Standard DNA

Description	Cat. No.	Quantity
UVC irradiated DNA sample (0, 2.5, 5, 7.5, 10 J/m^2) New	CSR-NM-MA-R010	1 set

For research use only, Not for diagnostic use.

COSMO BIO CO., LTD.
TOYO EKIMAE BLDG. 2-20, TOYO 2-CHOME,
KOTO-KU. TOKYO 135-0016, JAPAN
TEL : (81)3-5632-9617
FAX : (81)3-5632-9618
e-mail : export@cosmobio.co.jp
URL : www.cosmobio.com