

Novel research tools for lipid peroxidation

# - LipiRADICAL Green

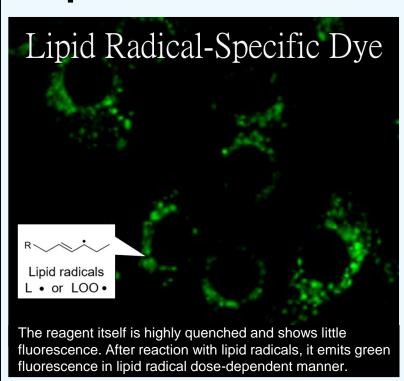
- OH-Pen



For more information: https://www.funakoshi.co.jp/exports\_contents/95008?Fl



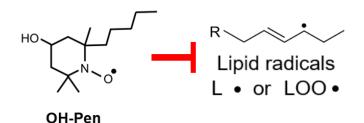
# LipiRADICAL Green



LipiRADICAL Green is the world's first detection reagent for lipid radicals, which are upstream factors of lipid-peroxidation (LPO). This reagent is compatible with live cell imaging, structural analysis of lipid radicals by fluorescent LC/MS-MS and so on.

# **OH-Pen**

Lipid Radical-Specific Inhibitor



OH-Pen is a radical compound, however this is a remarkably stable and can be injected into animals.

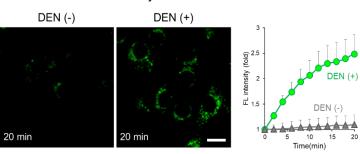
**OH-Pen** is a lipid radical specific inhibitor that does not block other reactive oxygen species.

OH-Pen can suppress the LPO signaling by inhibiting the production of lipid radicals..

## **Application data (LipiRADICAL)**

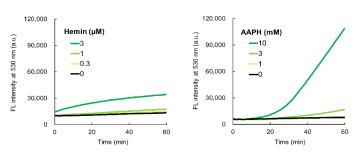
#### Cell-based imaging

Hepa1-6 cells were treated with "LipiRADICAL Green". For inducing an LPO signal, the cells were co-treated with diethylnitrosamine (DEN) and "LipiRADICAL Green", an LPO initiator. Immediately after DEN addition, the cells were observed by confocal microscopy with 2 min interval. The fluorescent signal of "LipiRADICAL Green" from the DEN-treated cells clearly increased.



#### in vitro detection of lipid radicals derived from LDL

Purified low-density lipoprotein (LDL) was mixed with pro-oxidants hemin or AAPH and "LipiRADICAL Green" and the green fluorescence was measured. Both hemin and AAPH increased green fluorescence indicating the production of lipid radicals from LDL particles in a time-dependent manner.

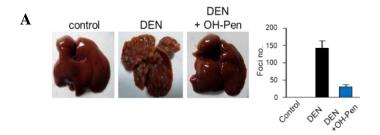


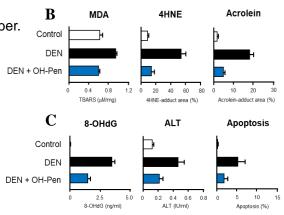
### **Application data (OH-Pen)**

#### Inhibition of nitrosamine-induced carcinogenesis by OH-Pen

Rats received diethylnitrosamine (DEN, 100 mg/kg body weight), which is a well-known hepatic procarcinogen. Subsequently, rats received OH-Pen (2.5 µmol/kg body weight) by intraperitoneal injection after 1 hour DEN administration. For the acute model and chronic model, livers were dissected after 24 hours and 12 weeks DEN administration, respectively. In all panels, OH-Pen clearly suppressed DEN-induced hepatocellular carcinoma.

- Livers from chronic hepatocelluar carcinoma model and total foci number.
- Quantification of LPO-derived aldehydes in acute model livers.
- Quantification of tissue damage markers.





#### What is Lipid Peroxidation (LPO)?

Memo Lipid peroxidation (LPO) is one of the several degradation processes of lipids under oxidative stress. In the termination reaction, antioxidants donate a hydrogen atom to the lipid peroxy radical (LOO.) species resulting in the formation of many different aldehydes including malondialdehyde (MDA), acrolein, propanal, hexanal, and 4-hydroxynonenal (4-HNE). These reactive aldehydes are considered as causative factors of organ injury, ferroptosis and ER stress.

**Product Name** Code Size **Price** LipiRADICAL Green <Lipid Radical Detection FDV-0042 0.1 mg Reagent>

<Manufacturer: FNA>

<Manufacturer: FNA>

Product Name	Code	Size	Price
OH-Pen	FDV-0043	0.1 mg	
<lipid inhibitor="" radical=""></lipid>			

- ※ All products here are research use only, not for diagnostic use
- Specs might be changed for improvement without notice.
- X Numbers after "#" represents product code.

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