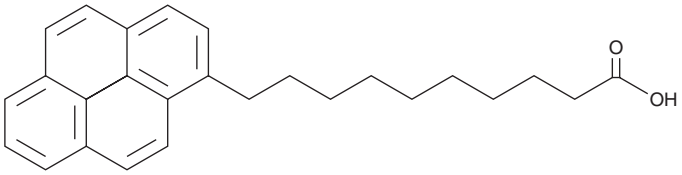
PRODUCT INFORMATION

1-Pyrenedecanoic Acid

Item No. 46834

CAS Registry No.:	64701-47-9
Synonyms:	PDA, PDecA
MF:	$C_{26}H_{28}O_2$
FW:	372.5
Purity:	≥95%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Ex./Em..:	320/395 nm



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1-Pyrenedecanoic acid (PDA) is supplied as a solid. A stock solution may be made by dissolving the PDA in the solvent of choice, which should be purged with an inert gas. PDA is sparingly soluble (1-10 mg/ml) in DMSO.

Description

PDA is a fluorescently tagged form of decanoic acid (Item Nos. 46905 | 20838) that contains a fluorescent pyrene group at carbon 10. PDA forms excimers, an excited-state dimer formed through pyrene-pyrene interactions between adjacent PDA molecules.[1,2] Upon formation of PDA excimers, the emission maximum shifts from 395 to 478 nm when excited at 320 nm. The ratio of the PDA monomer to excimer signal has been used in the study of lipid membrane organization and dynamics *in vitro*.[1,2] PDA has also been used in the development of cellular assays to monitor lipid metabolism and storage and to track the degradation of lipid nanocarriers *in vitro*.[3-5]

References

1. Galla, H.-J. and Hartmann, W. Excimer-forming lipids in membrane research. *Chem. Phys. Lipids* **27(3)**, 199-219 (1980).
2. Subramanian, R. and Patterson, L.K. Effects of molecular organization on photophysical behavior. Excimer kinetics and diffusion of L-pyrenedecanoic acid in lipid monolayers at the nitrogen-water interface. *Chemischer Informationsdienst* **17(3)**, (1984).
3. Missaglia, S., Coleman, R.A., Mordente, A., *et al.* Neutral lipid storage diseases as cellular model to study lipid droplet function. *Cells* **8(2)**, 187 (2019).
4. Radom, J., Salvayre, R., Maret, A., et al. Metabolism of 1-pyrenedecanoic acid and accumulation of neutral fluorescent lipids in cultured fibroblasts of multisystemic lipid storage myopathy. *Biochim. Biophys. Acta* **920(2)**, 131-139 (1987).
5. Zhang, D., Meng, Y., Hao, M., *et al*. Nanocarriers made of natural fatty acids: Modulation of their release profiles through photo-crosslinking. *Angew. Chem. Int. Ed. Engl.* **64(93)**, e202415671 (2025).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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