ZnAF-2 DA

Fluorescent probe for Zn^{2+}. Cell permeable.

Cell permeable derivative of ZnAF-2 (Prod. No. ALX-620-072). Fluorescent reagent (Ex(max): 492nm; Em(max): 514nm) for the detection of low concentration of zinc ion due to its strong affinity to zinc ion (dissociation constant: 2.7nM). The sample zinc ion can be specifically detected. Low background fluorescense supersensitizes the visualization for *in vivo* sample zinc ion.

Zinc (Zn) is the second most abundant transition metal in the body ant it is essential as catalytic, structural and regulatory ion. Zinc ions are involved in homeostasis, immune responses, oxidative stress, apoptosis and aging. Zinc has been proposed to function as a conventional neurotransmitter for the presynaptic neuron and as a transmembrane signal to traverse the postsynaptic neuron. Aberrant zinc metabolism is associated with many neurological diseases including Alzheimer's disease, Parkinson's disease and epilepsy. The most suitable technique for in vivo monitoring of zinc has been proven to be fluroescent imaging.

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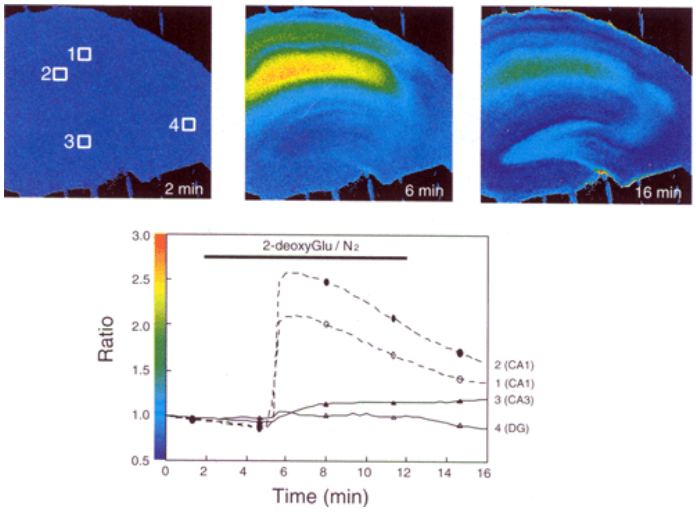


Figure 4: Changes in the imaging fluorescence of the hippocampal slices stained with ZnAF-2 DA over time.

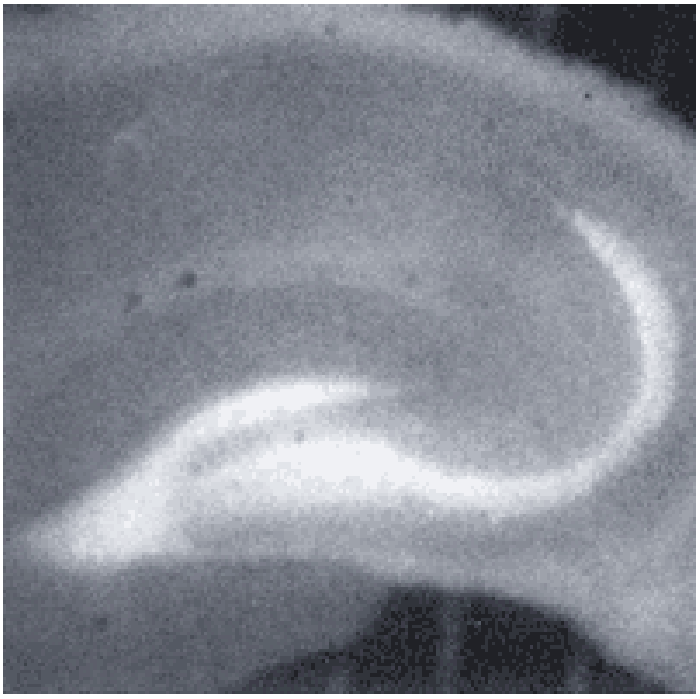


Figure 3: Rat hippocampal slices stained with ZnAF-2 DA.

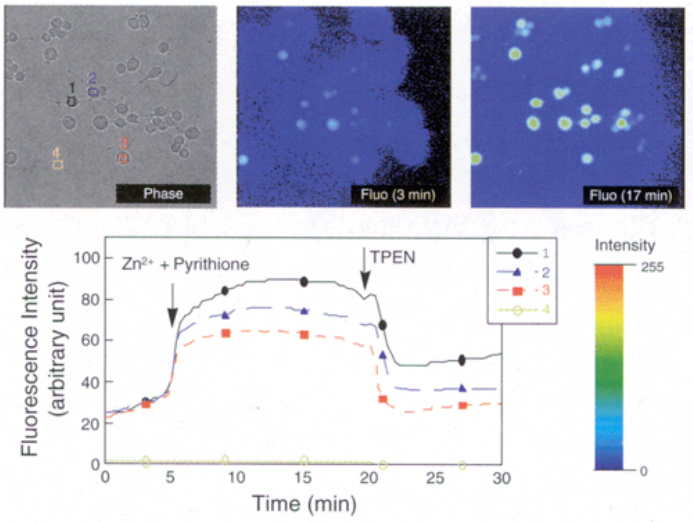
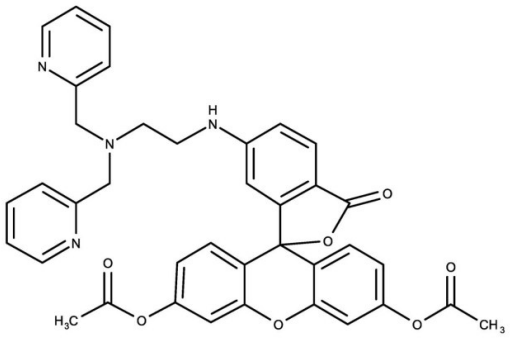


Figure 2: Zn^{2+} imaging with macrophage (RAW 264.7).



Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Prepare 500-5'000-fold dilution (~10-1µM) in HEPES buffer (0.1M phosphate, pH 7.4) immediately before use. BSA, phenol red and amines may affect the fluorescence and must be used with caution. Do not store the dilutions.
Handling	Protect from light. Keep under inert gas. After opening, prepare aliquots and store at -20°C.
Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	6-[N-[N',N'-bis(2-Pyridinylmethyl)-2-aminoethyl]amino-3′,6′-bis(acetyloxy)-spiro[isobenzofuran-1(3H),9′-[9H]xanthen]-3-one
Appearance	Liquid.
CAS	357339-96-9
Concentration	~5mM
Formula	$C_{38}H_{32}N_4O_7$
Formulation	Dissolved in 0.3ml DMSO.
MW	656.7

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ENZO LIFE SCIENCES, INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES (ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands & Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers): 0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com

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