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产品名称: **CRANAD 2**
CAS 号: **1193447-34-5**
产品货号: **T52332**

生物活性:				
Description	CRANAD-2 is a specific near-infrared (NIR) fluorescent probe for detecting A β plaques (unbound to A β : Ex=640 nm; Em=805 nm; after binding: Em=715 nm). CRANAD-2 penetrates the blood-brain barrier and has high affinity for A β aggregates, with a K _d value of 38 nM. CRANAD-2 is applicable to research related to Alzheimer's disease and neurodegenerative diseases[1][2][3][4].			
In Vitro	CRANAD-2 (0-1500 nM; 1 h) 与预先形成的 Δ N 淀粉样纤维结合, 解离常数为 55 ± 6 nM[1]。 CRANAD-2 (35 nM) 可在 35 nM 浓度下对预形成的 Δ N 淀粉样纤维进行 SMLM 超分辨成像, 分辨率为 45-55 nm[1]。			
In Vivo	CRANAD-2 (2.0 mg/kg; i.v.; single dose) 可通过 MSOT 和 epi-fluorescence imaging 在 arcA β 小鼠模型中实现体内 A β 沉积的检测, 且在脑切片中与 A β 沉积存在特异性共定位[2]。 Animal Model: transgenic arcA β mice (overexpressing human APP695 with Swedish and Arctic mutations, both sexes, 18-24 months-of-age); non-transgenic littermates (both sexes, 18-24 months-of-age)[2] Dosage: 2.0 mg/kg Administration: i.v.; single dose Result: Exhibited higher cortical retention in arcA β mice compared to non-transgenic littermates at 60-120 minutes post-injection; Co-localized with anti-A β antibodies in parenchymal and vessel-associated A β deposits in arcA β mouse brain sections. Showed no detectable signal in non-transgenic littermate cortex sections.			
Solvent&Solubility	细胞实验: DMSO 中的溶解度 : 2 mg/mL (4.87 mM; 超声助溶 (<60° C); 吸湿的 DMSO 对产品的溶解度有显著影响, 请使用新开封的 DMSO) DMF 中的溶解度 : 2 mg/mL (4.87 mM; 超声助溶 (<60° C))			
		Solvent Concentration	Mass Concentration	
	Preparing	1 mM	2.4375 mL	12.1874 mL
	Stock Solutions	5 mM	0.4875 mL	2.4375 mL
		10 mM	---	---
* 请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液; 一旦配成溶液, 请分装保存, 避免反复冻融造成的产品失效。 储备液的保存方式和期限: -80°C, 6 months; -20°C, 1 month (protect from light)。-80°C 储存时, 请在 6 个月内使用, -20°C 储存时, 请在 1 个月内使用。				
参考文献	[1]. Torra J, et al. Versatile Near-Infrared Super-Resolution Imaging of Amyloid Fibrils with the Fluorogenic Probe CRANAD-2. Chemistry. 2022;28(19):e202200026. [2]. Ni R, et al. In-vitro and in-vivo characterization of CRANAD-2 for multi-spectral optoacoustic tomography and fluorescence imaging of amyloid-beta deposits in Alzheimer mice. Photoacoustics. 2021 Jul 15;23:100285. [3]. Ran C, et al. Design, synthesis, and testing of difluoroboron-derivatized curcumins as near-infrared probes for in vivo detection of amyloid-beta deposits. J Am Chem Soc. 2009 Oct 28;131(42):15257-61. [4]. Ran C, et al. Non-conjugated small molecule FRET for differentiating monomers from higher molecular weight amyloid beta species. PLoS One. 2011 Apr 29;6(4):e19362.			