800CW Antibody Labeling Kit

Component

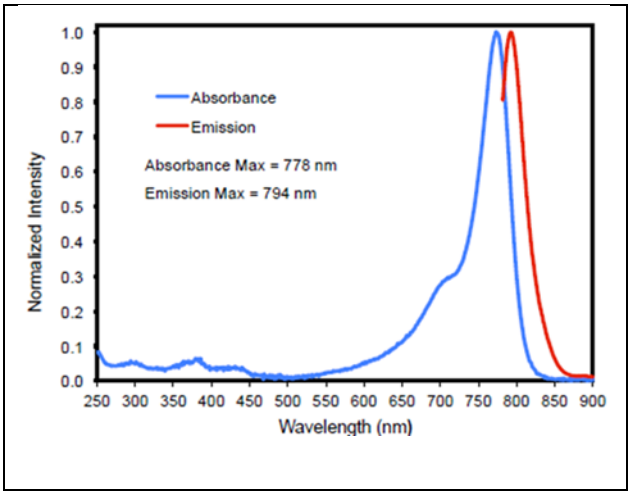
The 800CW conjugation kit is available in two formats, NHS and maleimide. Other formats are available upon request.

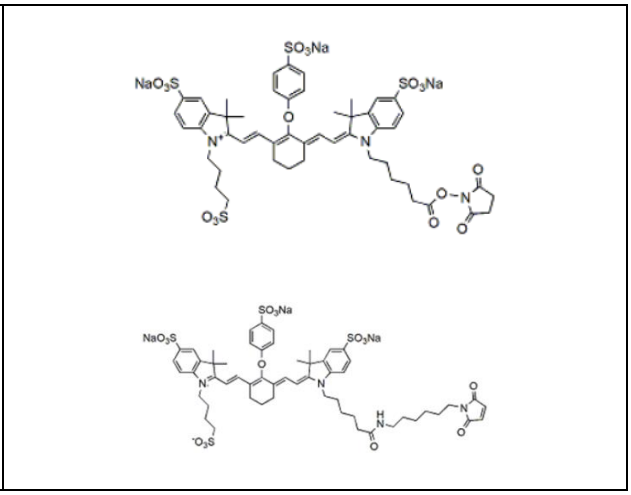
Kit Component		Product size						storage
		800 CW NHS antibody labeling kit			800CW Mal antibody labeling kit			
		BP-50032 (1x100 ug)	BP-50031 (3x100 ug)	BP-50030 (1x1 mg)	BP-50053 (1x100 ug)	BP-50052 (3x100 ug)	BP-50051 (1x1 mg)	
A	Active dye	1	3	1	1	3	1	-20C
B	Buffer	1	1	1	1	1	1	RT
C	Desalt column	1	3	1	1	3	1	RT
D	DMSO, 1rxn 1ml	1	1	1	1	1	1	RT
E	NaN3 3% 0.5ml	1	1	1	1	1	1	RT
Note: The kit above is designed for IgG antibodies, but works well for any amine and thiol containing biomolecule. Please follow same technical tips if required.								

Overview

800CW (IRDye 800CW acid equivalent) is a near-infrared fluorescent dyes. The unique structure has 4 sulfonates which make it as a high water soluble and less aggregation in the aqueous solution. 800CW is used for protein and antibody labeling, or nucleic acid applications with high labeling density.
800CW dye-conjugated agents and probes are currently propelling more than a dozen Phase I or Phase II clinical trials, more than any other near-infrared fluorescent dye based on its enhanced sensitivity due to low background autofluorescence in the near-infrared region and, therefore, higher signal-to-noise ratios.

Dye	MW	Laser channel	Abs max	Emission max	extinction coefficient	CF_{280}
800CW NHS	1166.2	780; 750	774	789	240,000	0.11
800CW Mal	1247.4	780;750	774	789	240000	0.11





Protocol

--- general protocol dye maleimide antibody labeling kit
--- general protocol dye maleimide antibody labeling kit

Application

- Western blot
- flow cytometry
- In-Cell Western™ assays
- and On-Cell Western cell-based assays,
- protein arrays
- microscopy,
- tissue section imaging,
- in vivo imaging and optical probe development.

Reference

(listed partially, more than 4000 papers available online**)**

1. Marshall, M.V., Draney, D., Sevick-Muraca, E.M. et al. Single-Dose Intravenous Toxicity Study of IRDye 800CW in Sprague-Dawley Rats. Mol Imaging Biol 12, 583–594 (2010).
2. Kijanka, M., Warnders, FJ., El Khattabi, M. et al. Rapid optical imaging of human breast tumour xenografts using anti-HER2 VHHs site-directly conjugated to IRDye 800CW for image-guided surgery. Eur J Nucl Med Mol Imaging 40, 1718–1729 (2013).

3. Ruimin Huang, Jelena Vider, Joy L. Kovar, D. Michael Olive, Ingo K. Mellinghoff, Philipp Mayer-Kuckuk, Moritz F. Kircher and Ronald G. Blasberg;Integrin αvβ3-Targeted IRDye 800CW Near-Infrared Imaging of Glioblastoma ;Clin Cancer Res October 15 2012 (18) (20) 5731-5740;
4. Linder, Karen E., et al. "Synthesis, in vitro evaluation, and in vivo metabolism of fluor/quencher compounds containing IRDye 800CW and Black Hole Quencher-3 (BHQ-3)." Bioconjugate chemistry 22.7 (2011): 1287-1297.
5. Bujie Du, Xingya Jiang, Yingyu Huang, Siqing Li, Jason C Lin, Mengxiao Yu, and Jie Zheng
Tailoring Kidney Transport of Organic Dyes with Low-Molecular-Weight PEGylation
Bioconjugate Chemistry 2020 31 (2), 241-247
6. Francisco Romero Pastrana, John M. Thompson, Marjolein Heuker, Hedzer Hoekstra, Carly A. Dillen, Roger V. Ortines, Alyssa G. Ashbaugh, Julie E. Pickett, Matthijs D. Linssen, Nicholas M. Bernthal, Kevin P. Francis, Girbe Buist, Marleen van Oosten, Gooitzen M. van Dam, Daniel L. J. Thorek, Lloyd S. Miller & Jan Maarten van Dijl (2018) Noninvasive optical and nuclear imaging of Staphylococcus-specific infection with a human monoclonal antibody-based probe, Virulence, 9:1, 262-272,

Other Related Available

All these dyes have click chemistry format available for order. Click reaction normally occurs in different pairs (i.e. DBCO/azide, azide/alkyne, Tz/TCO) and they are chemo-selective, easy to perform, high yields. Customers can order their pairs based on the application and hydrophilicity needed.

Reaction type		Part number
Click chemistry 1	Dye Azide	BP-23372; BP-22483; BP-22324; BP-23372; BP-22134; BP-22325
	R-PEG- alkyne	See alkyne- PEG- NHS, alkyne- PEG- mal,
Click chemistry 2	Dye alkyne	BP-22459; BP-22532; BP-22958; BP-23000; BP-23009; BP-23023;BP-23017; BP-23001
	R-PEG- azide	See azide - PEG- NHS, azide- PEG- mal,
Click chemistry 3	Dye-TCO	BP-22424
	R-PEG-Tz	See Mal-PEG-Tz; See NHS-PEG-Tz
Click chemistry 4	Dye-Tz	BP-22941;BP-22442
	R-PEG-TCO	See Mal-PEG-TCO; See NHS-PEG-TCO
Click chemistry 5	Mal-Dye-Azide	BP-23032
	Alkyne- PEG-NHS, alkyne-PEG-Mal	See Alkyne- PEG-NHS, alkyne-PEG-Mal
Click chemistry 6	NHS-Dye-Azide	BP-23028
	Alkyne-PEG-NHS, alkyne-PEG- Mal	See Alkyne- PEG-NHS, alkyne-PEG-Mal