

Mix-n-Stain™

antibody labeling kits

Fast and easy kits for labeling antibodies

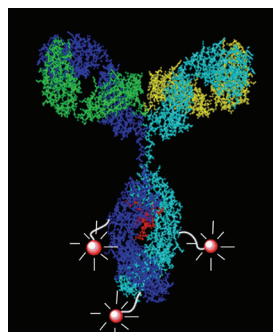
Label from <1 ug up to 100 ug of antibody with the brightest dyes in 30 min — It's a Revolution!

World's Simplest Antibody Labeling Protocol



Combine antibody, buffer and dye

30 min
hands-free
reaction time



Fluorescent antibody conjugate ready for staining

Mix and then **Stain** – It really is that simple!

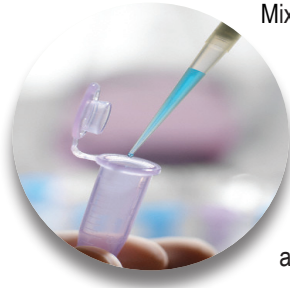
- Covalent labeling without purification
- Many dye and protein labels to choose from!
- Ideal for multi-color staining
- Labeling protocol tolerates BSA, gelatin, and even ascites fluid

Look inside for

Mix-n-Stain™ small ligand labeling kits

for SNAP-Tag®, Clip-Tag™ & HaloTag® substrates and other small molecules

Mix-n-Stain™ antibody labeling kits



Mix-n-Stain™ antibody labeling kits dramatically simplify the process of preparing fluorescently labeled antibodies, particularly primary antibodies. Simply mix your antibody with the dye or protein of your choice. After 30 minutes and without a separation step, you will have a covalently labeled antibody conjugate that is as good as a commercial pre-labeled fluorescent antibody (Figure 1). There is no need to calculate how much dye you should use; just follow the protocol provided and you will always produce optimal labeling. Moreover, the labeling reaction can tolerate the presence of common stabilizers, such as sodium azide, Tris, and low levels of glycerol, BSA or gelatin. Using the modified Mix-n-Stain™ labeling protocol, you can label antibodies in the presence of excess stabilizer protein or even ascites fluid.

Mix-n-Stain™ antibody labeling kits are superior to Zenon® and Lightning-Link™ labeling kits (Figure 2). Unlike Zenon® labeling kits which use antibody fragments or other linkers for labeling, the dyes or proteins are covalently linked to the antibody using the Mix-n-Stain™ labeling kits; thus, there is no dye transfer between antibodies or diffusion during multi-color staining. In addition, Mix-n-Stain™ conjugates are stable for at least 6 months in Storage Buffer, while Zenon® labeled antibodies must be used right away.

Many dye and protein conjugation kits to choose from!

- Bright and photostable CF™ dyes: more than 20 color options
- Fluorescent proteins and tandem dyes: R-PE, APC, PerCP, APC-CF750T
- Other proteins, enzymes and haptens: biotin, horseradish peroxidase (HRP), Alkaline Phosphatase (AP), Glucose Oxidase (GO), dinitrophenol (DNP), digoxigenin

Mix-n-Stain labeled antibodies perform comparably to purified antibody conjugates

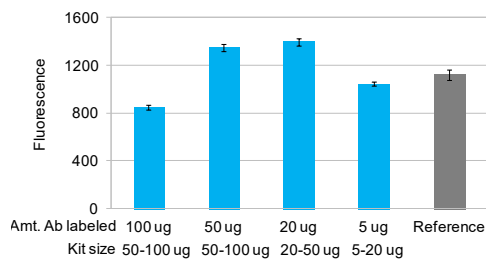


Figure 1. Flow cytometry analysis of Jurkat cells stained with CF™633 Mix-n-Stain labeled mouse anti-human CD3 antibodies (BD cat# 555330). Reference (gray bar): Alexa Fluor® 647 mouse anti-human CD3 (BD cat# 557706). Mix-n-Stain conjugates prepared using different kit sizes performed similarly to the commercially available purified conjugate of the same primary antibody.

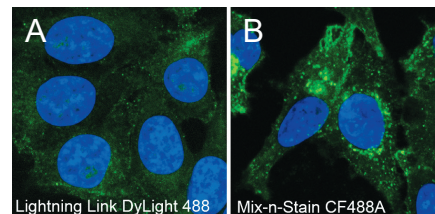


Figure 2. Mouse anti-transferrin receptor antibody from BD Biosciences (endosome and plasma membrane marker) was labeled using Lightning Link Rapid DyLight 488 Conjugation Kit from Novus Biologicals (A) or Mix-n-Stain CF488A Antibody Labeling Kit (B) according to manufacturers' instructions. The CF488A conjugate staining shows higher signal and more specific staining compared the DyLight 488 conjugate.

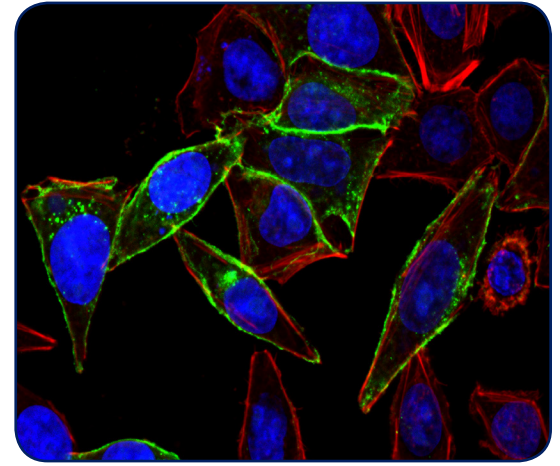
Compatibility:

- No ultrafiltration step required for IgG in <10% glycerol, <20 mM Tris, and up to 4:1 ratio of BSA:IgG or gelatin:IgG.
- Quick ultrafiltration step for IgG containing >10% glycerol, 20 mM Tris, or glycine.
- Modified protocol for sample with > 4:1 ratio of BSA:IgG or gelatin:IgG, or IgG in ascites.

Mix-n-Stain™

small ligand labeling kits

Label from 0.1 umol of small ligands with the brightest dyes in 30 min, at 1/3 to 1/10 the cost of pre-labeled ligands



Mix-n-Stain™ CF™ dye small ligand labeling kits are designed for rapid covalent labeling of low molecular weight (Mwt ~ 150 - 5,000) and relatively high affinity biological ligands (or substrates) without a final purification step. Simply mix your ligand with a CF™ dye of your choice and after a 30 minute incubation, a brief quenching step, and without a separation step, you will have a covalently labeled dye-ligand conjugate for protein labeling that performs as well as synthetic fluorescent ligands from leading suppliers (Figure 3), at a fraction of the cost. Even without column purification, the CF™ dye-ligand does not non-specifically stain cells or other biomolecules. Suitable ligands or substrates include the SNAP-tag®, CLIP-tag™, HaloTag® and TMP-tag ligands that have an aliphatic amine. Many other small ligands are also possible candidates for Mix-n-Stain™ labeling, if they meet the criteria described in the product protocol.

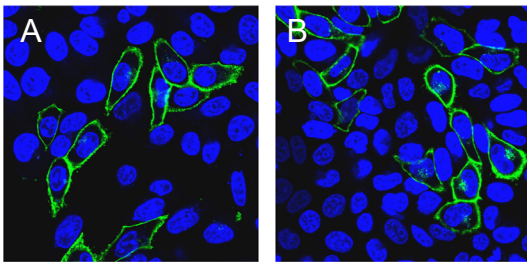


Figure 3. Live cell imaging of HeLa cells expressing CLIP-NK1R labeled with (A) CLIP-amine conjugated to CF488A using Mix-n-Stain kit; and (B) CLIP-surface 488 from New England Biolabs (Cat. S9232S). Cell nuclei were stained with Hoechst 33342 (see related products). Green: FITC channel; Blue: DAPI channel.

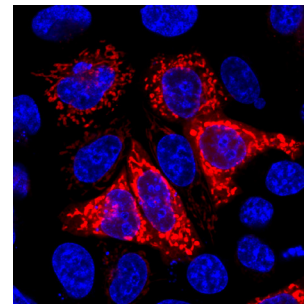


Figure 4. CF540 Mix-n-Stain kit labeling mitochondria protein Cox8A in living cells via the CLIP-tag. Cell nuclei were stained with Hoechst 33342. Blue: DAPI channel; red: TMR channel.

Common tag types that can be labeled for cell surface or intracellular targets

- SNAP-tag®
- CLIP-tag™
- HaloTag®
- TMP-tag

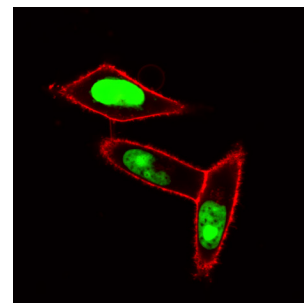


Figure 5. Two-color live cell imaging. CF500 Mix-n-Stain kit was used to label nuclear protein H2B via the CLIP-tag™; CF568 Mix-n-Stain kit was used to label cell surface protein ADRβ2 via the SNAP-tag®.

Ordering information

Mix-n-Stain™ CF™ Dye Antibody Labeling Kits

Label/dye	Ex (nm)	Em (nm)	Cat. # 5-20 ug Ab	Cat. # 20-50 ug Ab	Cat. # 50-100 ug Ab
CF™350	347	448	92270	92250	92230
CF™405L	395	545	92303	92304	92305
CF™405M	408	452	92272	92252	92232
CF™405S	404	431	92271	92251	92231
CF™430	426	498	92316	92317	92318
CF™440	440	515	92319	92320	92321
CF™450	450	538	92322	92323	92324
CF™488A	490	515	92273	92253	92233
CF™514	516	548	92331	92332	92333
CF™532	527	558	92289	92290	92291
CF™543	541	560	92287	92267	92247
CF™555	555	565	92274	92254	92234
CF™568	562	583	92275	92255	92235
CF™594	593	614	92276	92256	92236
CF™633	630	650	92277	92257	92237
CF™640R	642	662	92278	92258	92245
CF™647	650	665	92279	92259	92238
CF™660C	667	685	92280	92260	92239
CF™660R	663	682	92281	92261	92243
CF™680	681	698	92282	92262	92240
CF™680R	680	701	92283	92263	92246
CF™750	755	777	92284	92264	92241
CF™770	770	797	92285	92265	92242
CF™790	784	806	92288	92268	92248

Mix-n-Stain™ Small Ligand Labeling Kits

Label/dye	Ex (nm)	Em (nm)	Cat. #	Staining
CF™405M	408	452	92362	Surface
CF™488A	490	515	92350	Surface
CF™568	562	583	92351	Surface
CF™594	593	614	92352	Surface
CF™633	630	650	92353	Surface
CF™640R	642	662	92354	Surface
CF™647	650	665	92359	Surface
CF™660C	667	685	92360	Surface
CF™680	681	698	92361	Surface
CF™680R	680	701	92355	Surface
CF™408	408	450	92356	Intracellular
CF™500	500	510	92357	Intracellular
CF™540	540	570	92358	Intracellular
CF™555	555	585	92364	Intracellular
CF™650	650	670	92363	Intracellular

Mix-n-Stain™ Protein, Enzyme or Hapten Antibody Labeling Kits

Label	Cat. #	Size
biotin	92286	5-20 ug Ab
biotin	92266	20-50 ug Ab
biotin	92244	50-100 ug Ab
HRP	92300	10-20 ug Ab
HRP	92301	25-50 ug Ab
HRP	92302	50-100 ug Ab
AP	92314	25-50 ug Ab
AP	92315	50-100 ug Ab
GO	92312	25-50 ug Ab
GO	92313	50-100 ug Ab
DNP	92325	5-20 ug Ab
DNP	92326	20-50 ug Ab
DNP	92327	50-100 ug Ab
digoxigenin	92328	5-20 ug Ab
digoxigenin	92329	20-50 ug Ab
digoxigenin	92330	50-100 ug Ab

Mix-n-Stain™ Fluorescent Protein and Tandem Dye Antibody Labeling Kits

Label/dye	Cat. #	Size
APC	92306	25-50 ug Ab
APC	92307	50-100 ug Ab
PerCP	92308	25-50 ug Ab
PerCP	92309	50-100 ug Ab
R-PE	92298	25-50 ug Ab
R-PE	92299	50-100 ug Ab
APC-CF750T	92310	25-50 ug Ab
APC-CF750T	92311	50-100 ug Ab

Small Ligand for labeling

Ligand	Cat. #	Size
TMP-PEG3-amine, TFA salt	91056	1 mg

Mix-n-Stain and CF dye technologies are covered by pending US and international patents.

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