Protein Labeling Calculator

This is simple to use calculator performs the computations necessary to determine amount of labeling reagent and/or amount organic co-solvent required for labeling proteins or any other biomolecules with a labeling reagent of your choice.

Input parameters:

Protein name	
Protein molecular weight (daltons)	
Protein concentration (mg/mL)	

Protein name – enter name of protein to be labeled. It can be left as a blank.

Protein molecular weight (Daltons) – enter molecular weight of the protein to be labeled. The molecular weight should be known and entered in this field. It cannot be left blank.

Protein concentration (mg/mL) – enter concentration of the protein to be labeled. Protein concentration should be known and entered in this field. It cannot be left blank.

Volume of protein to be labeled (µL)	

Enter only one — either volume or amount of protein to labeld

Amount of protein to be labeled (mg)	

The calculator allows for the use of either weight (mg) or volume (µL) of protein to be labeled. *Amount of protein to be labeled* should be entered either as weight (mg) or volume (µL) of protein solution. Both values CANNOT be used at the same time.

In case when a portion of a protein stock solution needs to be labeled, for example 1 mg, required volume of protein stock solution needed for labeling will be calculated.

Molecular weight of labeling reagent (Da)	
Amount of labeling reagents to be used (mg)	

Molecular weight of labeling reagent (Daltons) – enter molecular weight of the labeling reagent. The molecular weight should be known and entered in this field. It cannot be left blank.

Amount of labeling reagent to be used (mg) – enter amount of linker used for labeling. The amount of labeling reagent should be known and entered in this field. It cannot be left blank.

Calculation using set amount of organic co-solvent in labeling reaction.

When organic co-solvent (e.g. DMSO or DMF) is used to make a stock solution of labeling reagent the maximum concentration of organic co-solvent in a labeling reaction can be set.
Note: most proteins can easily tolerate up to 5% of organic co-solvent during labeling reaction.

Maximum concentration of DMSO (%)* *Leave blank or 0 if not used	

Enter only one — either maximum concentration of DMSO or volume DMSO added to label

Volume DMSO added to labeling reagent (µL)	

Maximum concentration of DMSO (%) – enter maximum final concentration of DMSO or any other organic co-solvent in the labeling reaction. If not used leave it as a blank or 0, and use *Volume DMSO added to labeling reagent (µL).*

The calculator will provide following information:

Volume of DMSO required to make a stock solution (µL) – amount of DMSO or any other organic co-solvent that needs to be added to the o the entire vial of labeling reagent to make a sock solution of the labeling reagent.

Amount of stock labeling reagent to be added (µL) – amount of stock solution of labeling reagent needs to be used for labeling.

Calculation without maximum amount of organic co-solvent in labeling reaction.

In case organic co-solvent is not used or it is not an issue for labeling reaction calculation with maximum amount of organic co-solvent can be by-passed. Leave *Maximum concentration of DMSO (%)* as a blank or 0.

Maximum concentration of DMSO (%)* *Leave blank or 0 if not used	

Enter only one — either maximum concentration of DMSO or volume DMSO added to label

Volume DMSO added to labeling reagent (µL)	

Volume DMSO added to labeling reagent (µL) – enter amount of DMSO or any other solvent to be added to the entire vial of labeling reagent to male a stock solution of he labeling reagent.

The calculator will provide following information:

Amount of stock labeling reagent to be added (µL) – amount of stock solution of labeling reagent needs to be used for labeling.

Amount of DMSO in labeling reaction (%) – final concentration (%) of DMSO or any other co-solvent used to make the stock solution of labeling in the labeling reaction.