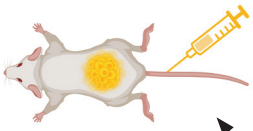
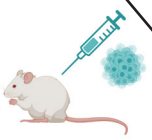
Support Products

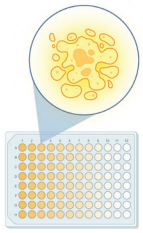
Off-the-Shelf Solutions and Kits for Cell and Protein Analysis

Ready-to-Use Luciferase Reagents

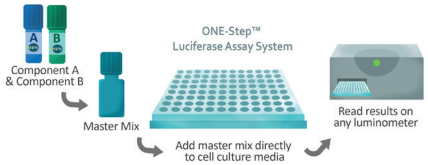
In Vivo-Luc™ Imaging Solution	78803
ONE-Step™ Luciferase Assay System	60690
TWO-Step Luciferase Assay System	60683







ONE-Step™ Luciferase Assay System: all-in-one reagent to achieve cell lysis and measure luciferase activity. Add the reagent, wait 15-30 minutes, and place in luminometer.



- Cell Culture: Thaw, Growth, Assay & Freeze Media
- Cytokines & Growth Factors
- Agonists & Inhibitors
- Transduction: Lenti-Fuse™ Polybrene Viral Transduction Enhancer (#78939)

Cell Lysis

NP-40 Cell Lysis Buffer (Mild)	82124
Modified NP-40 Cell Lysis Buffer (Mild)	82125
Modified RIPA Lysis Buffer (Moderate Strong)	82126
RIPA Lysis Buffer (Strong)	82127
Cell Lysis Buffer Sample Kit	82128
LysA™ Protease Inhibitor Cocktail Kit	82199

Downstream Applications

ELISA

NeutrAvidin™ Plates	79512
Streptavidin-HRP	79742
ELISA ECL Substrate	79670

Western Blot

Western Blot ECL Substrate	79572
Anti-β-Actin, Monoclonal	25002
Anti-GAPDH, Monoclonal	25007
Anti-β-tubulin (BT7R)	79468

Choose from a panel of monoclonal tag-epitope antibodies (myc, FLAG, GST, HA, His, V5, GFP, RFP) for the detection of tagged proteins.

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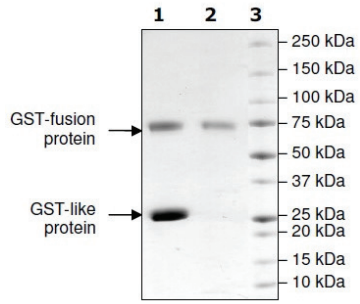
Tools to Support Recombinant Protein Purification and Production

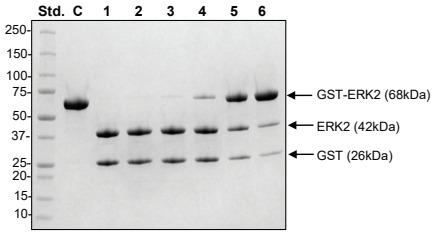
Protein Purification & Controls	
GFP, His-tag Recombinant	50277
Glutathione S-Transferase (GST) Fusion Protein Recombinant	100343
Bacterial Protein Extraction Buffer, 200 ml	20010
Bacterial Protein Extraction Buffer, 500 ml	20020
TurboTEV Protease Recombinant	50308
HRV 3C Protease, His-GST-tags Recombinant	50319
Anti-GST-like protein, Monoclonal	25014

Use immunoprecipitation or column-based absorption with anti-GST-like monoclonal antibody to remove the GST-like protein from Sf9 insect cells that can contaminate samples of purified GST-fusion proteins.



Removal of GST-like protein contaminant assessed by Coomassie staining of a 4-20% SDS-PAGE gel. A GST fusion protein purified from insect cells (lane 1) was incubated with anti-GST-like antibody (#25014) and Protein L beads for 30 minutes, resulting in pure GST fusion protein (lane 2).

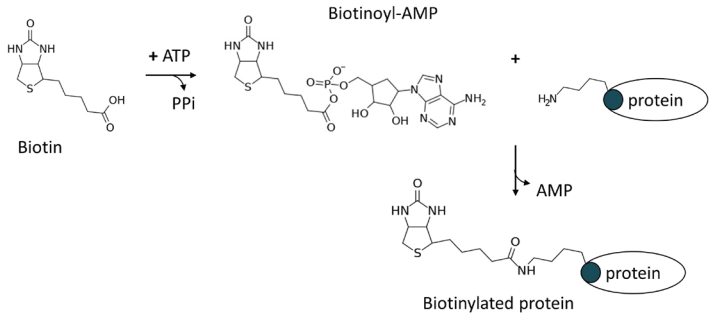
Use human rhinovirus (HRV) 3C protease His-GST tags, a PreScission protease, to remove GST from a GST-fusion protein in which a linker consensus sequence was inserted. The protease specifically cleaves sequence Leu-Phe-Gln-Gly-Pro between Gln and Gly. The protease can then be removed using nickel or glutathione beads or columns.



GST-tag removal by HRV 3C protease (#50319) assessed by Coomassie staining of a 4-20% SDS-PAGE gel. A 68 kDa GST-ERK2 (C) was incubated with the protease at 4°C for 16 hours at a ratio of 1:50; 1:100; 1:200; 1:400; 1:600; 1/3200 (from 1 to 6). The cleaved products are 42 kDa and 26 kDa.

Enzymatic Biotinylation

Widely used in biotechnology, the enzymatic biotinylation of proteins most commonly employs biotin ligase BirA from *E. coli*. BirA catalyzes an ATP-dependent reaction in which biotin is used to form biotinyl-5'-adenylate and is transferred to the lysine residue of a consensus sequence. This is a reaction of stringent specificity. Nowadays, target proteins are engineered with a defined optimized sequence termed AviTag™ to control both the location and the number of biotin molecules that can be enzymatically appended.



Enzymatic Biotinylation Tools	
E. coli *in vivo* Biotinylation Kit (with BirA Competent Cells)	27461
E. coli *in vivo* Biotinylation Kit (without cells)	78870
BirA-transformed Competent *E. coli* cells	27462
BirA, His-FLAG-tags (*E. coli*-derived) Recombinant	70030
BirA, GST-Tag (*E. coli*-derived) Recombinant	70031
BirA, His-FLAG-tags (Sf9-derived) Recombinant	70032

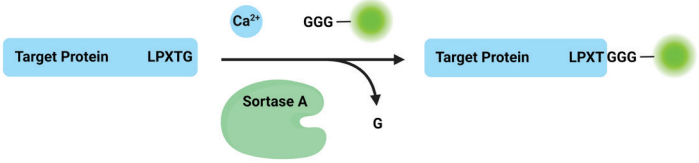
BPS Bioscience

Sortase-Mediated Protein Labeling

Sortase A from *Staphylococcus aureus* is a well-characterized transpeptidase useful to modify proteins. The enzyme recognizes an LPXTG motif in the target protein and cleaves the amide bond between threonine and glycine. A cysteine residue in the active site of sortase generates a thioacyl intermediate, covalently linking sortase A to its substrate. This intermediate undergoes nucleophilic attack by the α-amine of an oligoglycine, resulting in a new peptide bond formation between the substrate protein and the oligoglycine. Sortase A is especially useful for protein labeling. Once the LPXTG motif is included in the protein of interest, all one needs is sortase A and an oligoglycine nucleophile containing a payload of choice. This system is perfect for labeling proteins with small fluorescent probes, generating non-natural protein dimers or cyclic proteins, immobilizing proteins to solid surfaces, and producing homogeneous antibody drug conjugates (ADCs).

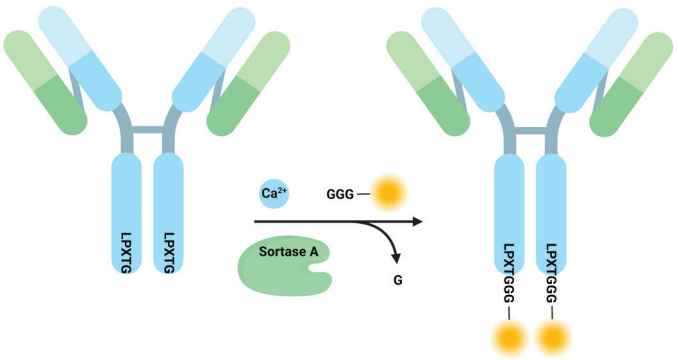
Sortase Enzymes and Kits

SiMPLe Protein Labeling Kit (Sortase-Mediated Protein Ligation)	79392
SiMPLe CHC Antibody Labeling Kit (Sortase-Mediated Protein Ligation)	82155
Sortase A, *S. aureus*, His-tag Recombinant	71086
Sortase A Pentamutant, *S. aureus*, His-tag Recombinant	71046
Sortase A, Hexamutant, His-Tag Recombinant	71047
Sortase A, Heptamutant, His-Tag Recombinant	71048
Sortase A, Octamutant, His-Tag Recombinant	72518
Ca^{2+} Independent Sortase, His-Tag (*S. aureus*) Recombinant	100666
Sortase Sampling Kit	79709



Use the SiMPLe Protein Labeling Kit (#79392) to label recombinant proteins that contain the LPXTG sorting motif. This kit contains highly active Sortase A Pentamutant and results in labeling efficiencies >90%. Purification columns are provided with Ubiquitin-LPETGH6 and GGG-Clover included as positive controls.

Use the SiMPLe CHC Antibody Labeling Kit (#82155) to specifically label recombinant antibodies containing sequence LPXTG at the C-terminus of the heavy chain. Poly-glycine-containing molecules (fluorophores, biotin, enzymes, peptides, etc.) are compatible with this kit. The site-specific conjugation ensures that the antigen-binding site remains available, and reduces heterogeneity compared to chemical conjugation methods. Perfect for ADC development and flow cytometry.



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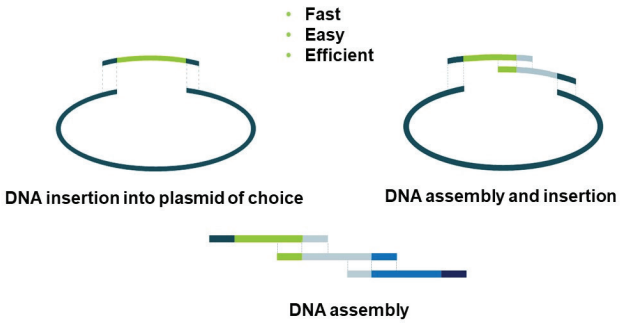
Support Products

Molecular Biology Tools and Nucleosomes

DNA Engineering Kits, Enzymes & Buffers

Quick PCR™ Plus Assembly Kit	78531
Quick PCR™ Plus Assembly Kit with Competent Cells	78532
Turbonuclease	50310

The Quick PCR™ Plus Assembly Kit is used as a molecular cloning tool to assemble a long DNA fragment from multiple smaller fragments, or to insert DNA into a plasmid in a single reaction. Available with or without competent *E. coli*.



Turbonuclease (#50310) is an ultra-pure version of benzonase, a non-specific endonuclease that hydrolyzes both single- and double-stranded nucleic acids (RNA and DNA) to 5′-phosphorylated oligonucleotides of 1-4 bases in length.

- Reduce viscosity of cell lysates
- Remove nucleic acid contamination from samples or Ni column purification
- Reduce smearing in SDS-PAGE when used with 10% SDS or gel loading dye
- Reduce clumping of high density cells
- Replace crude DNase I in many applications

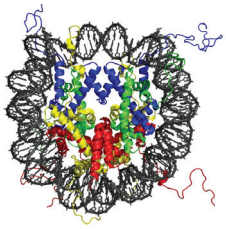
RNA Modification

Dicer, His-Tag (Human) Recombinant	79083
Dicer, FLAG-Tag Recombinant	101532
VP39, His-Tag, (Vaccinia Virus) Recombinant	101442

Vaccinia virus VP39 (#101442) acts as a cap–specific RNA 2′-O-methyltransferase at the 5′ end of mRNAs. Thus, it is used to increase mRNA stability following *in vitro* transcription by methylating the mRNA 5′ cap structure.

Nucleosomes

Recombinant Nucleosome (*E. coli*-derived), Biotin-labeled, His-Tag	52048
Recombinant Nucleosome (*E. coli*-derived)	52038
Native Nucleosome (HeLa-derived)	52039
Native Nucleosome (HEK293-derived)	52015



Human nucleosomes are comprised of histones that can be enzymatically or chemically modified. Our recombinant nucleosomes are homogeneous.
Nucleosomes are excellent substrates in assays using histone-modifying enzymes.

Trust our Quality: we are ISO 9001:2015 certified

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