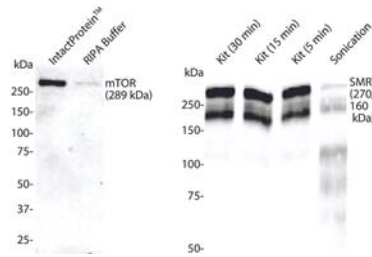


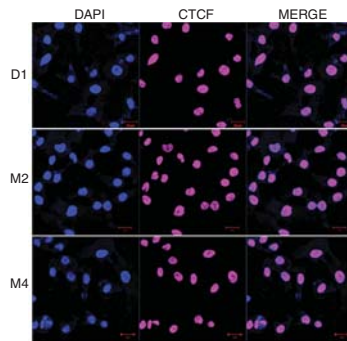
IntactProtein™ Tissue-Cell Lysis Kit

- Ultimate Solution for Large Proteins
- No Need to Add Inhibitor Cocktails
- No Sonication Required
- All-in-one Formula
- Protein PTMs Well-preserved



FadeStop™ Fluorescent Mounting Medium

- Preserve Fluorescence Intensity for 4 months in Freezer
- Retain Fluorescent Signals after 10 Laser Scans
- Ready-to-Use Solutions
- Available with or without DAPI counterstain

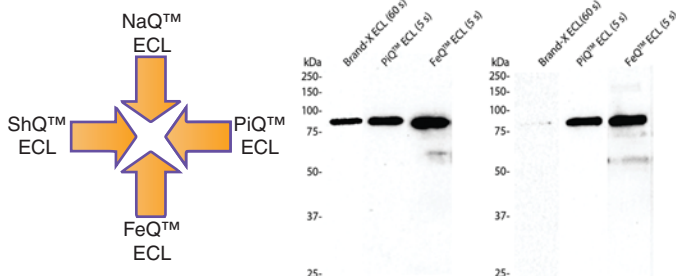


SARS-CoV-2 Solutions

- SARS-CoV-2 Antigens
- SARS-CoV-2 Antibodies
- SARS-CoV-2 Detection Kits
- Host Defense shRNA & Abs



Ultrasensitive ECL Kits



Poor reagent quality has been a longstanding contributor to data inconsistency and nonreproducible biomedical research for many years. Low-quality reagents are not just a waste of valuable resources, they also cost you time and money. At GenuIN Biotech, our mission is to provide validated short hairpin RNA (shRNA) lentiviruses, knockdown/out (KD/KO)-validated antibodies, superior reagents, and all-in-one test kits to help you achieve your research goal. We take on this burden so that your research efforts can focus on the most important issues in your biomedical study.

To accomplish this mission, we leverage our proprietary platform to silence genes through shRNA lentiviruses or knock-out genes using genome editing techniques. After validation of the shRNA lentiviruses and/or knockout cell lines, we then use them to test the specificity of antibodies. Furthermore, we test our antibodies across species (e.g., human, mouse, rat, monkey, cow, dog, chicken, and pig), in different applications (e.g., Western blotting, immunocytochemistry, immunohistochemistry, and flow cytometry), and with real microorganisms and human specimens (e.g., SARS-CoV-2 antibodies). Lastly, we provide high-performance reagents as companion products to ensure the reproducibility of your experimental data. We sincerely hope that our reliable and affordable products and services will be the steppingstone to your success.

GenuIN Biotech LLC

Real Matters



Product Lines

GenuIN products made for you!

Validated shRNA Lentiviruses

KD/KO-Validated Monoclonal Antibodies

AgVet™ Monoclonal Antibodies

Superior Reagents & Kits

Customized Services

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TEL:
540-605-9777



2270 Kraft Drive, Suite 1311
Blacksburg, VA 24060



FAX:
540-605-9771

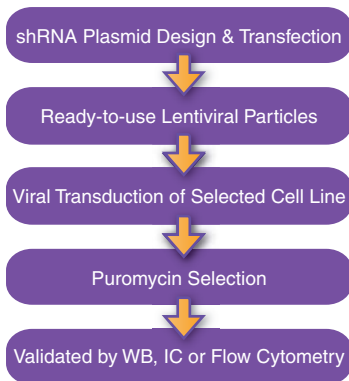
Validated shRNA Lentiviruses

Short hairpin RNA (shRNA) is a powerful tool to silence the expression of a target gene through RNA interference. The shRNA lentiviral vector can stably integrate into a cell's genome to provide a more complete knockdown. It is also particularly powerful for difficult-to-target and non-dividing cells.

At GenuIN Biotech, we have developed a proprietary shRNA-mediated gene knockdown platform. Using our lentiviral platform, we designed and validated the specificity of a collection of lentiviruses using Western blotting, immunocytochemical staining, or flow cytometry. This lentiviral shRNA library has the following distinguishing features:

- 1. Validated.** Why waste your time and resources by purchasing a shRNA lentivirus that hasn't been validated? We have already completed the painstaking and time-consuming steps for you.
- 2. Ready-to-Use.** Is there anything easier than just putting the viral medium on your cultured cells to do the viral transduction? Our lentiviruses are in culture media and ready to use.
- 3. Easy to Make Stable KD Cell Lines.** Why spend thousands of dollars to buy a stable cell line instead of making one by yourself? Simply put our validated shRNA lentiviruses on your cells and select the cells to be 100% pure with an antibiotic, and you will get a stable knockdown cell line as easy as 1-2-3.
- 4. Economic.** The benefit for you is that we have validated the specificity of these viruses so that you don't have to do it all from scratches, saving your resources, and most importantly, your time.

Flow Chart of Lentivirus Production and Validation



Here is an example of how we validate our shRNA lentiviruses:

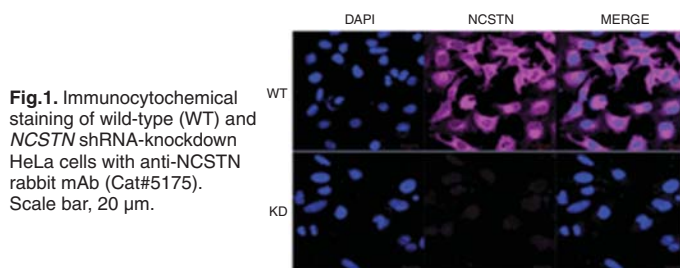


Fig.1. Immunocytochemical staining of wild-type (WT) and *NCSTN* shRNA-knockdown HeLa cells with anti-NCSTN rabbit mAb (Cat#5175). Scale bar, 20 μ m.

Knockdown/out-Validated Monoclonal Antibodies

Antibody specificity refers to an antibody's ability to bind to and only to its target antigen. This exclusivity requires complex validation techniques with genetic verification as the best choice. Two genetic approaches, gene knockdown (KD) and knockout (KO), have been broadly accepted as the gold standard for antibody validation. The principle behind the genetic approach is that when a gene is knocked down at the mRNA level or knocked out at the genomic level, its coded protein, and hence the signal derived from the antibody-protein(antigen) reaction, will be reduced or removed. To ensure that our antibodies are specific, we validate our antibodies using lentiviral shRNA-mediated gene silencing (knockdown) technique. If a gene cannot be specifically knocked down by the shRNA technique, we will edit the genome to knock out the gene and its coded protein. In addition, we test our antibodies across species and in various applications to make sure they function as intended.

Here are three examples of how we validate our antibodies with shRNA knockdown technique in different applications:

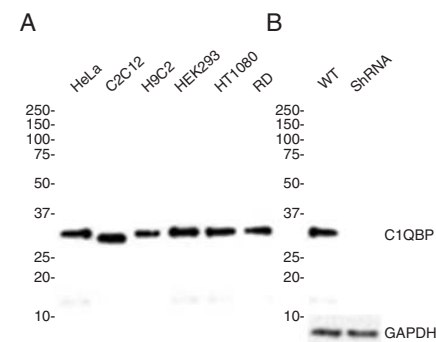


Fig. 2. C1QBP expression in various cell lines (A) and in wild-type (WT) and *C1QBP* shRNA knockdown HeLa cells (B). GAPDH serves as a loading control.

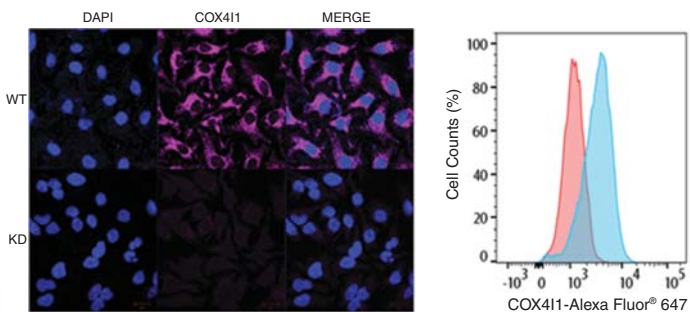
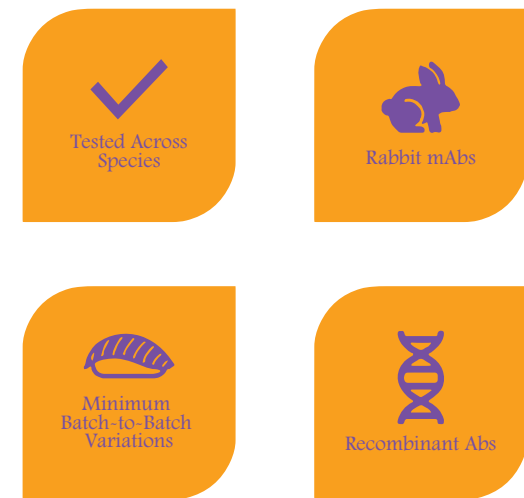


Fig. 3. Immunocytochemical staining of HeLa cells using anti-COX411 antibody (Cat. #1581). Top panel: wild type (WT); Bottom panel: *COX411* shRNA knockdown (KD). Nuclei were stained blue with DAPI; COX411 was stained magenta with Alexa Fluor[®] 647. Scale bar: 20 μ m.

Fig. 4. Flow cytometric analysis of COX411 expression in HeLa cells using anti-COX411 antibody (Cat. #1581). Blue: wild type (WT); red: *COX411* shRNA knockdown (KD).

AgVet™ Monoclonal Antibodies For Farm & Companion Animals

Most commercial research antibodies have been developed for humans and commonly used laboratory animals such as mice and rats. Researchers in agriculture and veterinary clinics have struggled to find suitable antibodies for their species of interest, and we supply a collection of antibodies for farm and companion animals. To ensure the quality of our products, we rigorously test our antibodies across species and in various applications. In addition, we test the specificity of some of our antibodies with knockdown and/or knockout techniques to guarantee the quality of our products.



Here is an example of how we test our antibodies in terms of their species cross-reactivity:

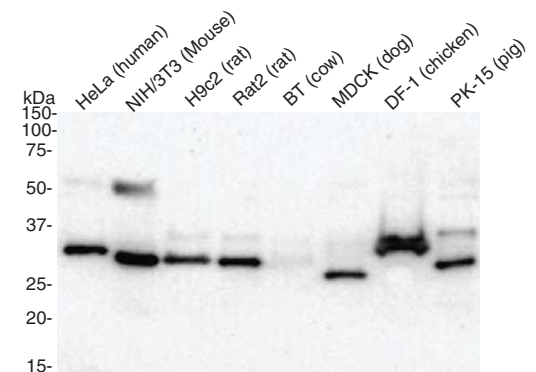


Fig. 5. Western blotting analysis of C1QBP expression in various species. Species cross-reactivity of C1QBP antibody (Cat. #1166) was tested using lysates (40 μ g) from various cell lines.