

UltraCruz[®] Transfection Reagent: sc-395739

PRODUCT

UltraCruz[®] Transfection Reagent is a highly efficient reagent for DNA transfection, with minimal cellular damage. Recommended for use with shRNA Plasmids, CRISPR/Cas9 KO Plasmids, HDR Plasmids, Cre Vector, Double Nickase Plasmids and CRISPR/dCas9 Activation Plasmids. Sufficient reagent supplied for 10-40 transfections (per well in a 6-well plate); 0.2 ml. Store at 4° C; DO NOT FREEZE.

NOTE: Although highly efficient in a variety of cell lines, UltraCruz[®] Transfection Reagent: sc-395739 may not be suitable for use with all cell lines.

NOTE: Transfection protocols are available for each SCBT plasmid type.

GENERAL PRODUCT INFORMATION

To the best of our knowledge, this material is not toxic, hazardous or dangerous to one's health according to OSHA regulations. Follow appropriate guidelines for proper laboratory precautions and procedures when handling product. Wear appropriate protective clothing to limit exposure to eyes, skin and mucous membranes, as irritation may occur while using dry powders or liquid media. Wash hands thoroughly after using this product. This information represents the best information available to date. We make no warranty or assume liability from its use. Users should make their own investigations to determine the suitability of the information.

TRANSFECTION PROTOCOL

This protocol is recommended for a single well from a 6-well tissue culture plate. Adjust cell and reagent amounts proportionately for wells or dishes of different sizes.

- In a 6-well tissue culture plate seed 1.5×10^5 - 2.5×10^5 cells in 3 ml of antibiotic-free standard growth medium per well, 24 hours prior to transfection. Grow cells to a 40-80% confluency. Initial cell seeding and cell confluency after 24 hours are determined based on the rate of cell growth of the cells used for transfection. Healthy and subconfluent cells are required for successful CRISPR/Cas9 KO Plasmid transfection.
- Prepare the following solutions:

NOTE: The optimal Plasmid DNA:UltraCruz[®] Transfection Reagent ratio should be determined experimentally beginning with 1 µg of Plasmid DNA and between 5-15 µl of UltraCruz[®] Transfection Reagent. Once the Transfection Reagent volume is optimized to minimize cell toxicity, Plasmid DNA concentrations can vary between 1-3 µg per well. If the optimal UltraCruz[®] Transfection Reagent volume is 10 µl, then Plasmid DNA concentrations ranging from 1-3 µg/10 µl should be tested. For example, test Plasmid DNA/UltraCruz[®] Transfection Reagent amounts: 1 µg/10 µl, 2 µg/10 µl, and 3 µg/10 µl. The appropriate amount of Plasmid DNA/UltraCruz[®] Transfection Reagent complex used per well should be tested to determine which amount provides the highest level of transfection efficiency.

NOTE: If transfecting more than one plasmid (i.e. CRISPR/Cas9 KO Plasmid with HDR Plasmid), mix Plasmid DNA at equivalent ratios.

Solution A: For each transfection, dilute 1-3 µg of Plasmid DNA into Plasmid Transfection Medium: sc-108062 to bring final volume to 150 µl. Pipette up and down to mix. Let stand for 5 minutes at room temperature.

TRANSFECTION PROTOCOL CONT.

Solution B: For each transfection, dilute 5-15 µl of UltraCruz[®] Transfection Reagent: sc-395739 with enough Plasmid Transfection Medium: sc-108062 to bring final volume to 150 µl. Pipette up and down to mix. Let stand for 5 minutes at room temperature.

NOTE: Do not add antibiotics to the Plasmid Transfection Medium: sc-108062.

- Add the Plasmid DNA solution (Solution A) dropwise directly to the dilute UltraCruz[®] Transfection Reagent (Solution B) using a pipette. Vortex immediately and incubate for no less than 20 minutes at room temperature.
- Prior to transfection, replace media with fresh antibiotic-free growth medium. Add the 300 µl Plasmid DNA/UltraCruz[®] Transfection Reagent Complex (Solution A + Solution B) dropwise to well.
- Gently mix by swirling the plate.
- Incubate the cells for 24-72 hours under conditions normally used to culture the cells. No media replacement is necessary during the first 24 hours post-transfection. Add or replace media as needed 24-72 hours post-transfection.

NOTE: Controls should always be included in transfection experiments. (i.e. Control CRISPR/Cas9 Plasmid: sc-418922.)

- Complete phenotypic and/or genotypic analysis may require isolation of single cell colonies to confirm complete allelic knockouts
- For protein analysis, change media to standard growth medium 3 days prior to cell lysis. To lyse adherent cells, aspirate media, rinse cells with PBS, scrape and centrifuge cells at low speed to obtain a cell pellet. For suspension cells, transfer the culture to a centrifuge tube and centrifuge cells at low speed to obtain a cell pellet. Wash once with PBS and centrifuge again. For 100% confluent HEK 293 or HeLa cells, add 100 µl of RIPA Lysis Buffer System: sc-24948 to the pellet. For other cell lines or confluencies, the amount of RIPA Lysis Buffer System to use should be determined experimentally. Sonicate or shear cells. Incubate sample on ice for 10 minutes, vortex, and incubate again for 10 minutes on ice. Spin cell lysate at 10000 RPM for 20 minutes at 4° C. Use the BCA Protein Assay Kit: sc-202389 to determine protein concentration.
- For RT-PCR analysis isolate RNA using the method described by P. Chomczynski and N. Sacchi (1987). Single-step method of RNA isolation by acid guanidinium thiocyanate-phenol-chloroform extraction. Anal. Biochem. 162: 156-159) or a commercially available RNA isolation kit.

References:
PMID: 24157548, PMID: 23287718

SUPPORT PRODUCTS

PRODUCT	CAT. #	DESCRIPTION	AMOUNT
Plasmid Transfection Medium	sc-108062	Reduced-serum medium suitable for addition to CRISPR/Cas9 Plasmid, HDR Plasmid, or Cre Vector suspension and Plasmid Transfection Reagent immediately prior to cell transfection; modification of Eagle's Minima I medium, buffered with HEPES and sodium bicarbonate, and supplemented hypoxanthine, thymidine, sodium pyruvate, L-glutamine, trace elements, growth factors and phenol red.	20 ml
UltraCruz [®] Tissue Culture Plates	sc-204443	6 well, individually wrapped, sterile, non-pyrogenic, DNase-free.	100/case

UltraCruz[®] Transfection Reagent support products are optimal for successful transfection of Santa Cruz Biotechnology, Inc's plasmids into mammalian cells.



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 29-Nov-2017

Version 1.2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name UltraCruz® Transfection Reagent
Product Code SC-395739

Recommended use of the chemical and restrictions on use

For research use only. Not intended for diagnostic or therapeutic use.

Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc.
10410 Finnell Street
Dallas, TX 75220
831.457.3800
800.457.3801
scbt@scbt.com

Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

2. HAZARDS IDENTIFICATION

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Signal word Not classified
Hazard statements Not classified
Symbols/Pictograms Not classified

Precautionary Statements - Prevention Wash hands thoroughly after handling
Precautionary Statements - Response IF exposed or concerned: Get medical advice/attention

Hazards not otherwise classified (HNOC)

Hazards not otherwise classified (HNOC) Not applicable

Other Information

NFPA	Health hazards	0		HMIS	Health hazards	0
	Flammability	0			Flammability	0
	Stability	0			Physical hazards	0
	Physical and chemical properties	-			Personal protection	-

3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight No information available
Formula No information available

Chemical Name	CAS No	Weight %	Oral LD50	Dermal LD50	Inhalation LC50
UltraCruz® Transfection Reagent	-	>98	-	-	-

4. FIRST AID MEASURES

First Aid Measures

General advice	Consult a physician if necessary. Remove to fresh air.
Eye contact	Wash with plenty of water.
Skin Contact	Wash skin with soap and water.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Unsuitable Extinguishing Media	None.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	No information available.

Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation, especially in confined areas.
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Environmental precautions

Environmental precautions	See Section 12 for additional Ecological Information.
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Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Store at 4 °C.

Incompatible materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls
 Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).
 Skin and Body Protection Wear protective gloves and protective clothing.
 Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
 General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State liquid
 Appearance No information available
 Odor No information available

<u>Property</u>	<u>Values</u>
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	No information available.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No data available.
Eye contact	No data available.
Skin Contact	No data available.
Ingestion	No data available.

Information on toxicological effects

Symptoms	No information available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	No information available.
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Numerical measures of toxicity - Product Information

Unknown acute toxicity	No information available
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12. ECOLOGICAL INFORMATION

Ecotoxicity	May cause long lasting harmful effects to aquatic life
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0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability	No information available.
Bioaccumulation	No information available.
Mobility	No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Do not reuse container.

14. TRANSPORT INFORMATION

DOT Not regulated

IMDG Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

International Inventories

All of the components in the product are on the following Inventory lists

No information available

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

16. OTHER INFORMATION

Revision note No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet