



# S16

CRL-2941™

## Description

S16 is derived from a primary culture of Schwann cells that was isolated in 1989 from the sciatic nerve of *Rattus norvegicus* (rat). It was immortalized by repetitive passaging and is useful for investigating the cell biology of MAG and other myelin-related components in neuroscience and toxicology research.

**Organism:** *Rattus norvegicus*, rat

**Cell Type:** Schwann Cell

**Tissue:** Sciatic nerve

**Age:** neonate

**Morphology:** epithelial-like

**Growth properties:** Adherent

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## Storage Conditions

**Product format:** Frozen

**Storage conditions:** Vapor phase of liquid nitrogen

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## Intended Use

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

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## BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to

understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

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## Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at [www.atcc.org](http://www.atcc.org).

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## Growth Conditions

**Temperature:** 37°C

**Atmosphere:** 95% Air, 5% CO<sub>2</sub>

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## Handling Procedures

### Unpacking and storage instructions:

1. Check all containers for leakage or breakage.
2. Remove the frozen cells from the dry ice packaging and immediately place the

## CRL-2941

cells at a temperature below  $-130^{\circ}\text{C}$ , preferably in liquid nitrogen vapor, until ready for use.

**Complete medium:** The base medium for this cell line is ATCC-formulated Dulbecco's Modified Eagle's Medium, Catalog No. 30-2002. To make the complete growth medium, add the following components to the base medium: fetal bovine serum to a final concentration of 10%.

**Handling Procedure:**

To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at  $-70^{\circ}\text{C}$ . Storage at  $-70^{\circ}\text{C}$  will result in loss of viability.

**Note:** The culture flasks should be treated with  $0.1\text{mL}/\text{cm}^2$  of flask surface area with  $15\mu\text{g}/\text{mL}$  poly-L-lysine (Sigma Cat. #P-9155 or equivalent) for at least 2 hours at  $37^{\circ}\text{C}$ . Remove solution and rinse one time with DPBS and allow flask to air dry uncapped and standing upright in a biological cabinet for about 30 minutes before introducing cells.

1. Thaw the vial by gentle agitation in a  $37^{\circ}\text{C}$  water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes).
2. Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
3. Transfer the vial contents to a centrifuge tube containing 9.0 mL complete culture medium and spin at approximately  $125 \times g$  for 5 to 10 minutes.
4. Resuspend cell pellet with the recommended complete medium (see the specific batch information for the culture recommended dilution ratio) and dispense into a **poly-L-lysine coated**  $25\text{ cm}^2$  or a  $75\text{ cm}^2$  culture flask. It is important to avoid excessive alkalinity of the medium during recovery of the cells. It is suggested that, prior to the addition of the vial contents, the culture vessel containing the complete growth medium be placed into the incubator for at least 15 minutes to allow the medium to reach its normal pH (7.0 to 7.6).

**Subculturing procedure:**

Volumes used in this protocol are for  $75\text{ cm}^2$  flasks; proportionally reduce or increase

amount of dissociation medium for culture vessels of other sizes.

**Note:**

The culture flasks should be treated with 0.1 mL/cm<sup>2</sup> of flask surface area with 15 µg/mL poly-L-lysine (Sigma Cat. No. P-9155 or equivalent) for at least 2 hours at 37°C. Remove solution and rinse one time with DPBS and allow flask to air dry uncapped and standing upright in a biological cabinet for about 30 minutes before introducing cells.

1. Remove and discard culture medium.
2. Briefly rinse the cell layer with Ca<sup>++</sup>/Mg<sup>++</sup> free Dulbecco's phosphate-buffered saline (DPBS) or 0.25% (w/v) Trypsin - 0.53 mM EDTA solution to remove all traces of serum which contains trypsin inhibitor.
3. Add 1.0 to 2.0 mL of Trypsin-EDTA solution to flask and observe cells under an inverted microscope until cell layer is dispersed (usually within 5 to 15 minutes).

**Note:** To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal.

4. Add 6.0 to 8.0 mL of complete growth medium and aspirate cells by gently pipetting.
5. Transfer cell suspension to a centrifuge tube and spin at approximately 125 X g for 5 to 10 minutes. Discard supernatant.
6. Resuspend the cell pellet in fresh growth medium. Add appropriate aliquots of the cell suspension to new culture vessels. An inoculum of  $4 \times 10^3$  to  $6 \times 10^4$  viable cells/cm<sup>2</sup> is recommended.
7. Incubate cultures at 37°C. We recommend that you maintain cultures at a cell concentration between  $2 \times 10^4$  and  $4 \times 10^4$  cells/cm<sup>2</sup>.

**Subcultivation ratio:** A subcultivation ratio of 1:4 to 1:6 twice weekly is recommended.

**Medium renewal:** Every 2 to 3 days

**Interval:** Subculture when cell concentration is between  $2 \times 10^4$  and  $4 \times 10^4$  cells/cm<sup>2</sup>.

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## Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: S16 (ATCC CRL-2941)

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## References

References and other information relating to this material are available at [www.atcc.org](http://www.atcc.org).

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