AllGrad® 100% is an optimized stock (100%) solution for all gradients.

AllGrad® 45% is a ready-to-use upper layer.

AllGrad® 90% is a ready-to-use lower layer.

AllGrad® 100%, 90%, 45% and AllGrad Wash® are sterile, clean formulations of silane-coated silica particles in our media solution with HEPES as a pH buffer for density gradient sperm separation. AllGrad® has proven to be effective in the separation and purification of human sperm in IVF and Assisted Reproductive Technology.

AllGrad® products will effectively separate and wash the sperm, while removing debris, seminal plasma, epithelial cells, leucocyte, bacteria, free oxygen radicals, viral infectivity, HIV, hepatitis, sperm with abnormal DNA, sources of ROS, and immature and abnormal sperm.

Using AllGrad® products may result in, high recovery rates, improved motility, excellent morphology, increased sperm-zona binding, and improved fertilization rates. It works equally well for cryopreserved samples.

Our Commitment...

LifeGlobal® Group is committed to delivering high-quality IVF and ART products worldwide, with operating facilities in Europe, Canada and the United States, and distributors in more than 80 countries worldwide.

Our LifeGlobal® culture media, GPS® Dishware products and CodaAir® purification products are our key product lines with proven clinical results. These include the global® family of ART media, LiteOil®, LifeGuard® Oil, AllGrad® sperm separation gradients, Coda® Xtra Inline® Filters, Coda®2, Coda® ECO™ Towers, Coda® Aeros, μDrop GPS®, embryo GPS®, embryo corral®, Universal GPS®, 4-Well GPS® dishes, <genX> Aspiration Pumps, and our µpipets™ and µtips™.

Our products are manufactured in North America in our IVFonline/genX ISO13485:2003 & ISO9001:2008 and FDA registered facilities, and are FDA 510(k) Cleared, Health Canada registered, and CE marked.
AllGrad® 100%

AllGrad® 100% is a suspension of silane-coated silica particles in AllGrad Wash®. AllGrad® 100% is formulated to lessen pH and osmolality shifts in the moving of sperm samples to the next medium product, to avoid premature hyper activation, and to improve fertilization. AllGrad® 100% maintains the pH between 7.2–7.6 at all temperatures, maintains good sperm motility, survival time and fertilization and provides glucose as an energy substrate to maintain normal cell metabolism and sperm function.

Intended Use
AllGrad® 100% is intended for the removal of dead sperm, debris, and other cells from human sperm cell preparations prior to in-vitro fertilization or ICSI.

Composition
Silane-coated silica particles in an aqueous solution containing:
- Sodium Chloride
- Potassium Chloride
- Magnesium Sulfate
- Calcium Chloride
- Potassium Phosphate
- Sodium Bicarbonate
- HEPES
- Glucose
- Sodium Pyruvate
- Sodium Lactate
- EDTA

Storage Instructions and Stability
Store AllGrad® 100% at 2–8°C and protected from light. AllGrad® 100% has a shelf-life of 2 years from the date of production when stored unopened at 2–8°C and protected from light.

Quality Assurance
AllGrad® 100% is membrane filtered and aseptically processed according to manufacturing procedures which have been validated to meet a sterility assurance level (SAL) of 10⁻³.

Each lot of AllGrad® 100% is tested for:
- pH ........................................... 7.2–7.6
- Osmolality ................................ 295–350
- LAL Endotoxin ......................... < 1.0 EU/ml
- Bacterial Screen ...................... Negative
- Fungal Screen ......................... Negative
- Sperm Survival Test .................. > 80% survival after 24 hr
- Specific Gravity ....................... 1.1150–1.1250 g/ml
- Viscosity cP (25°C) ................... < 1.75 cP

Directions for Use
To Prepare 90% and 45% Gradients
1. Carefully mix 27 ml of AllGrad® 100% with 3 ml of AllGrad Wash® in a small sterile flask. This will provide 30 ml of 90% gradient.
2. In a second sterile flask, mix 10 ml of the 90% gradient with 10 ml of AllGrad Wash® to prepare 20 ml of 45% gradient.
3. Store these stock gradients at 2–8°C.

Sperm Separation
1. In some cases, it may be advantageous to wash the sperm first prior to using AllGrad® gradients. This is accomplished by adding 2 ml of AllGrad Wash® to the liquefied semen sample and spinning at 350 g for 10 minutes. Re-suspend the sample in 1–2 ml of AllGrad Wash®.
2. Prepare two AllGrad® gradients for each semen sample. This reduces the risk of overloading a single gradient, provides security when handling tubes or recovering sperm pellets, and provides two tubes to balance the centrifuge motor.
3. In each tube, carefully layer 0.5–2 ml of AllGrad® 90% gradient, followed by 0.5–2 ml of AllGrad® 45% gradient, and then one-half of the semen sample or washed sperm.
4. Centrifuge the tubes at 350 to 400 g for 15 to 18 minutes. If the pellets are not visible, centrifuge for a further 3 minutes.
5. Remove the supernatant down to the sperm pellet at the bottom of the centrifuge tubes using a sterile standard Pasteur pipette.
6. Re-suspend the pellet in 2–3 ml of AllGrad Wash® and centrifuge again for 8–10 minutes.
7. Remove the supernatant wash medium down to the sperm pellet and repeat the wash process a second time.
8. Re-suspend the pellet in a suitable volume of appropriate medium.
AllGrad® 45% and AllGrad® 90% are a ready-to-use suspension of silane-coated silica particles in an aqueous solution. AllGrad® 45% and AllGrad® 90% are formulated to lessen pH and osmolality shifts in the moving of sperm samples to the next medium product, to avoid premature hyper activation, and to improve fertilization. AllGrad® 45% and AllGrad® 90% maintains the pH between 7.2–7.6 at all temperatures, maintains good sperm motility, survival time and fertilization and provides glucose as an energy substrate to maintain normal cell metabolism and sperm function. Using AllGrad® 45% and AllGrad® 90% as a ready-to-use 45% and 90% dilution saves preparation time in the laboratory while preserving the proven benefits of using an AllGrad® gradient. AllGrad® is compatible with all LifeGlobal products.

Intended Use
AllGrad® 45% and AllGrad® 90% are designed for the removal of dead sperm, debris, and other cells from human sperm cells prior to in-vitro fertilization or ICSI.

Composition
Silane-coated silica particles in an aqueous solution containing:
- Sodium Chloride
- Potassium Chloride
- Magnesium Sulfate
- Calcium Chloride
- Potassium Phosphate
- Sodium Bicarbonate
- HEPES
- Glucose
- Sodium Pyruvate
- Sodium Lactate
- EDTA

Storage Instructions and Stability
Store AllGrad® 45% and AllGrad® 90% at 2–8°C and protected from light. AllGrad® 45% and AllGrad® 90% have a shelf-life of 2 years from the date of production when stored unopened at 2–8°C and protected from light.

Quality Assurance
- pH: 7.2–7.6
- Osmolality: 300–320 mOsm/kg
- LAL Endotoxin: < 1.0 EU/ml
- Bacterial Screen: Negative
- Fungal Screen: Negative
- Sperm Survival Test: > 80% survival after 24 hr
- Specific Gravity: 1.050–1.150 g/ml
- Viscosity cP: < 1.65 cP

Directions for Use
Prepare two AllGrad® gradients for each semen sample. This reduces the risk of overloading a single gradient, provides security when handling tubes or recovering sperm pellets, and provides two tubes to balance the centrifuge motor.

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Volume</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AllGrad® 100%</td>
<td>Optimized Stock (100%) solution for all gradient separation. Removes all dead cells, viruses, sperm with abnormal DNA, debris, Seminal Plasma, Free Oxygen Radicals etc. Excellent sperm recovery, motility index and survival. Dilute with AllGrad Wash® for best results. Shelf Life: 2 years from the date of production.</td>
<td>100 ml</td>
<td>AGSS-100</td>
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<tr>
<td></td>
<td></td>
<td>250 ml</td>
<td>AGSS-250</td>
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<tr>
<td></td>
<td></td>
<td>500 ml</td>
<td>AGSS-500</td>
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<tr>
<td>AllGrad® 45%</td>
<td>Ready-to-use upper layer. Strictly tested lot-to-lot, excellent performance. Easy removal when rinsed. Shelf Life: 2 years from the date of production.</td>
<td>50 ml</td>
<td>AG45-050</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 ml</td>
<td>AG45-100</td>
</tr>
<tr>
<td>AllGrad® 90%</td>
<td>Ready-to-use lower layer. Strictly tested lot-to-lot, excellent performance. Easy removal when rinsed. Shelf Life: 2 years from the date of production.</td>
<td>50 ml</td>
<td>AG90-050</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 ml</td>
<td>AG90-100</td>
</tr>
<tr>
<td>AllGrad Wash®</td>
<td>High quality sperm preparation wash. May be used to dilute AllGrad® 100% stock solution, sperm washing and swim-up procedures. Shelf Life: 1 year from the date of production.</td>
<td>100 ml</td>
<td>GALW-100</td>
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<tr>
<td></td>
<td></td>
<td>500 ml</td>
<td>GALW-500</td>
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</table>
AllGrad Wash®

Intended Use

AllGrad Wash® is optimized for washing the sperm pellet recovered from an AllGrad® density centrifugation gradient for the separation, purification of human sperm, and swim-up procedures. AllGrad Wash® removes any particles of colloidal silica that may be present in the sperm pellet after centrifugation.

Composition

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
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<tr>
<td>Potassium Chloride</td>
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<tr>
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<td>Magnesium Sulfate</td>
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<td>Sodium Bicarbonate</td>
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<tr>
<td>Glucose</td>
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<td>Sodium Lactate</td>
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<tr>
<td>Sodium Pyruvate</td>
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<tr>
<td>Phenol Red</td>
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<tr>
<td>Gentamicin Sulfate</td>
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<tr>
<td>Human Serum Albumin</td>
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<tr>
<td>HEPES</td>
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</tbody>
</table>

Storage Instructions and Stability

Store AllGrad Wash® at 2–8°C and protected from light. AllGrad Wash® has a shelf-life of 1 year from the date of production when stored unopened at 2–8°C and protected from light.

Quality Assurance

- pH ........................................ 7.2-7.6
- Osmolality ............................. 280–300
- LAL Endotoxin ........................ < 1.0 EU/ml
- Bacterial Screen ..................... Negative
- Fungal Screen .......................... Negative

Directions for Use

Washing Sperm Before Separation on AllGrad® Gradients

In some cases, it may be advantageous to wash the sperm first prior to using AllGrad® gradients. This is accomplished by adding 2 ml of AllGrad Wash® to the liquefied semen sample and spinning at 350 g for 10 minutes. Re-suspend the sample in 1–2 ml of AllGrad Wash®.

Washing Sperm after Separation on AllGrad® Gradients

1. Remove the supernatant down to the sperm pellet at the bottom of the centrifuge tubes using a sterile standard Pasteur pipette.
2. Re-suspend the pellet in 2–3 ml of AllGrad Wash® and centrifuge again for 8–10 minutes at 350 g.
3. Remove the supernatant wash medium down to the sperm pellet and repeat the wash process a second time.
4. Re-suspend the pellet in a suitable volume of appropriate medium.