

ZETA life Universal Fetal Bovine Serum (Z7203FBS) Product Profile

Precision in cell culture is paramount to research success. ZETA life Universal Fetal Bovine Serum (Cat. No. Z7203FBS-100 [100ml] & Z7203FBS-500 [500ml]) offers exceptional cost-performance and unwavering reliability for critical research applications.

1. Quality Commitment: Sourced from Premier South American Ranches

1.1 Naturally Pure Blood Origins

Z7203FBS FBS originates from USDA-certified ranches in South America. This pristine environment, with its pure water sources and nutrient-rich pastures, fosters healthy fetal bovines. Ranches strictly adhere to international livestock standards, prohibiting antibiotics and hormones, ensuring every serum batch is a natural, uncontaminated resource. Collected during key fetal developmental stages, the serum is exceptionally rich in essential growth nutrients and bioactive factors, providing an optimal foundation for cell culture.

1.2 Rigorous Manufacturing Ensures Quality

- **Aseptic Collection:** Blood is collected via sterile cardiac puncture under closed-system GMP conditions. This meticulous process minimizes contamination and preserves the serum's native biological activity.

- **Triple Filtration Purification:** Serum undergoes three-stage filtration using 0.1µm PES membranes, effectively removing bacteria, fungi, mycoplasma, and particulate matter while retaining vital proteins and growth factors crucial for cell viability and function.
- **Comprehensive Quality Control:** Every Z7203FBS lot undergoes over 50 stringent tests, including endotoxin levels (significantly below industry standards), hemoglobin concentration, pH, and osmolality. Only batches passing all specifications bear the ZETA life quality seal, guaranteeing research reliability.

2. Universal Applicability Across Cell Culture Systems

2.1 Cancer Research: Building Precision Models

Z7203FBS excels in supporting diverse cancer cell lines:

- **Lung Cancer:** Enhances migration speed of A549 and H1975 cells by 25% for metastasis models; >90% attachment efficiency for H2170 and SK-MES-1 cells in radiosensitivity studies.
- **GI Cancers:** Increases colony formation rate of SW620 and HCT116 cells by 30% for colon organoid culture; maintains normal AFP secretion in HepG2 for hepatotoxicity screening.
- **Other Cancers:** Sustains stable CD44 expression in SK-OV-3 chemoresistance models; enables 95% data reproducibility in CAL-27 in vitro metastasis assays for head/neck cancer research.

2.2 Regenerative Medicine: Ideal Medium for Stem Cell Differentiation

Supports efficient multi-lineage stem cell regulation:

- **MSCs:** Boosts ALP activity by 40% and accelerates mineralization in rat BMSCs; achieves 75% endothelial differentiation efficiency in human ADMSCs for wound repair.
- **Embryonic & Germ Cells:** Maintains undifferentiated H9 hESCs over 15 passages with stable Oct4 expression; enables 12-fold expansion of chicken PGCs for avian transgenics.
- **Cancer Stem Cells (CSCs):** Increases PCSC sphere formation efficiency by 28% and maintains stable drug-resistant phenotypes for targeted therapy research.

2.3 Specialized Cell Culture: Unconventional Applications

Breaks boundaries in non-standard models:

- **Aquatic/Livestock Cells:** Reduces LYCO primary cell attachment time to 24h for marine breeding; sustains phagocytic activity in porcine PAMs >72h for PRRS vaccine development.
- **Neural/Immune Cells:** Increases SH-SY5Y neurite length by 50% for neurodegeneration models; enhances TNF- α secretion in RAW264.7 macrophages by 35% for endotoxin testing.
- **Engineering Cell Lines:** Achieves 1×10^8 TU/ml lentiviral titer in 293T cells for CAR-T production; increases rabies antigen expression in Vero cells by 20% for vaccine manufacturing.

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2.4 Primary Cell Culture: Unlocking Research Potential

Overcomes challenges with sensitive primary cells:

- **Animal Primary Cells:** Maintains albumin secretion in primary rat hepatocytes >10 days for drug metabolism; increases Type II collagen synthesis in chondrocytes by 40% for osteoarthritis models.
- **Human Primary Cells:** Sustains stable WT1 expression in HMCs for diabetic nephropathy; boosts tube formation efficiency in murine lung microvascular ECs by 60% for vascular barrier models.
- **Rare Primary Cells:** Maintains normal karyotype in bat cells for viral host studies; enables >20 passages of grass fish carcinoma cells for aquatic oncology.

2.5 Routine Cell Line Culture: Standardized Support

Ensures consistent performance with common lines:

- **Epithelial Cells:** Maintains typical morphology in HeLa and LO2 cells for cell cycle studies; reduces tubule formation time in HUVEC angiogenesis assays by 6 hours.
- **Immune/Hematopoietic Cells:** Achieves 90% THP-1 macrophage differentiation for phagocytosis assays; ensures <5% IC50 value variability in RPMI-8226 drug sensitivity tests.
- **Other Common Lines:** Sustains NIH-3T3 feeder layer activity for 7 days in iPS culture; increases neurite induction efficiency in PC-12 cells by 30% for neuroregeneration research.

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3. ZETA life Core Competitive Advantages

3.1 Over 30 Years of Industry Expertise

Established in 1989, ZETA life possesses deep expertise in cell culture, including co-development of the international serum-free medium DMEM/F12. We continuously optimize products based on market insights to deliver reliable solutions.

3.2 Uncompromising Quality & Consistency

Every Z7203FBS lot features full traceability (source documentation, veterinary certificates, COA). Automated production in Class 100 cleanrooms minimizes variability, ensuring batch-to-batch consistency and experimental reproducibility.

3.3 Exceptional Cost-Performance

Z7203FBS delivers premium quality at a significantly lower cost than comparable imports, while outperforming many domestic sera in stability and applicability – enabling high-quality research within budget.

4. Dedicated Support for Research & Commercial Success

4.1 Distributor Partnership Program

- **Marketing Empowerment:** Provides professional assets (brochures, posters, whitepapers, video tutorials) and training on market trends, sales strategies, and success cases.

- **Supply Chain Assurance:**Guarantees consistent product availability through robust manufacturing and flexible ordering policies tailored to distributor needs.
- **Territorial Protection:**Enforces exclusive distribution rights and actively prevents cross-regional sales to ensure fair market competition.

4.2 Researcher Support Services

- **Expert Technical Support:**Access to our scientist team for guidance on serum usage, culture optimization, and troubleshooting.
- **Risk-Free Sample Testing:**Request complimentary samples to evaluate Z7203FBS performance in your specific cell systems, supported by technical analysis.
- **Customized Protocols:**Receive tailored culture optimization plans (serum concentration, media formulation, parameters) designed for your research objectives.

Choose ZETA life Universal FBS Z7203FBS-100/500 – your reliable, high-value solution for successful cell culture. Partner with us to advance scientific discovery.