Growth Factor Panel

Vitti Labs EV-PURE vs. Competitor

Vitti Labs compared their frozen EV-PURE 5 mL placenta-derived Micro-Pods containing growth factors and cytokines product to a competitor's published results on their frozen 5 mL placenta-derived Micro-Pod product via an independent third-party laboratory. Vitti Lab's Micro-Pods outperformed the competitors' product in every category and have more than 15 times as many Micro-Pods, Growth Factors & Cytokines per mL than our competitor's published results at a better price for your patients.

Growth Factor (pg/mL)	EV-PURE 1 mL = 15 Billion	EV-PURE 5 mL = 75 Billion	Competitor 5 mL = 5 Billion	5 mL Competitor % of Vitti Labs 5 mL
BDNF	8.24	41.20	2.00	4.85%
BMP-5	**74,093.90**	**370,469.50**	**18,817.50**	**5.08%**
FGF-7	295.00	1,475.00	79.00	5.36%
GDF-15	**101,009.10**	**505,045.50**	**29,005.50**	**5.74%**
GDNF	254.10	1,270.50	70.50	5.55%
HGF	3,188.00	15,940.00	808.50	5.07%
OPG	121,092.70	605,463.50	34,088.50	5.63%
SCF	2,245.00	11,225.00	600.00	5.35%
TGFß3	**6,591.40**	**32,957.00**	**1,702.50**	**5.17%**
VEGF	**3,733.20**	**18,666.00**	**914.00**	**4.90%**
ICAM-1	62,451.10	312,255.50	18,894.00	6.05%
IL-1ra	**7,984.20**	**39,921.00**	**2,074.00**	**5.20%**
IL-6	36,770.20	183,851.00	7,735.50	4.21%
IL-10	**161.90**	**809.50**	**34.00**	**4.20%**
MCP-1	33,504.20	167,521.00	10,147.00	6.06%
MIP-1a	138.00	690.00	41.50	6.01%
MIP-1b	2,911.70	14,558.50	787.50	5.41%
PDGF-BB	**18,209.50**	**91,047.50**	**4,832.50**	**5.31%**
TIMP-1	**372,269.10**	**1,861,345.50**	**108,565.50**	**5.83%**
TIMP-2	**509,226.00**	**2,546,130.00**	**147,236.50**	**5.78%**
TNF RI	**6,905.40**	**34,527.00**	**2,168.00**	**6.28%**

Growth factor potency listed as "pica gram/milliliter"
EV-PURE testing completed by Creative Bioarray, November 2019.

BioXstem

(224) 401-9157
info@bioxstem.com

Key Growth Factors and Cytokines contained in Vitti Lab's EV-PURE Product

BDNF	**Brain-Derived Neurotrophic Factor** - Supports Survival of Neurons and Encourage Growth
BMP5	**Bone Morphogenic Protein 5** - Stimulates Bone Growth
FGF	**Fibroblast Growth Factor** - Potent Growth Factors Affecting Many Cells
G-CSF	**Granulocyte Colony Stimulating Factor** - Stimulates Bone Marrow to Procedure Granulocytes and Stem Cells
GDF15	**Growth Differentiation Factor 15** - Regulates Inflammation, Apoptosis, Cell Repair, and Growth
GDNF	**Glial-Derived Neurotrophic Factor** - Promotes Survival of Neurons
HGF	**Hepatocyte Growth Factor** - Involved in Organ Regeneration and Wound Healing
ICAM-1	**Intercellular Adhesion Molecule 1** - Binds Inflammatory Ligands on White Cells
IL-10	**Interleukin 10** - Anti-Inflammatory Cytokine Responsible for Immunomodulation and Regulatory T Cell Conversion
IL-1RA	**Interleukin 1 Receptor Antagonist** - Binds and Sequesters the Inflammatory Cytokine IL-1
IL-6	**Interleukin 6** - Responsible for Macrophage Activation
MCP-1	**Monocyte Chemoattractant Protein 1** - Recruits Mononuclear Cells to Treatment Area
MIP-1	**Macrophage Inflammatory Protein 1** - Also known as CC1-4, Recruits Mononuclear Cells to the Treatment Area
OPG	**Osteoprotegerin aka: Osteoclast Differentiation Factor** - Stimulates Bone Growth/Blocks Osteoclast Precursor Formation
PDGF-BB	**Platelet Derived Growth Factor Sub Unit B** - Growth Factor Used to Stimulate Healing in Soft and Hard Tissues
SCF	**Stem Cell Factor** - Responsible for Stem Cell and Melanocyte Growth
TGFß3	**Transforming Growth Factor Beta 3** - Most Important Anti-Inflammatory Protein. Converts Inflammatory T Cells into Anti-Inflammatory Regulatory T Cells.
TIMP1 & TIMP2	**Tissue Inhibitor of Metallopeptidase 1 & 2** - Blocks Cartilage and Extracellular Matrix Degradation, Important for Cartilage Repair
TNFR1	**Tumor Necrosis Factor Receptor 1** - Binds and Inactivates the Inflammatory cytokine TNF-α
VEGF	**Vascular Endothelial Growth Factor** - A Protein Involved in Both Angiogenesis and Vasculogenesis. Its most important role is to help in the creation of new blood vessels following an injury. VEGF is also involved in generating muscle tissue and bypassing blocked blood vessels.

About Vitti Labs

Vitti Labs is a registered tissue bank with the U.S. Food & Drug Administration's Human Cell and Tissue Establishment department. Our establishment is registered to recover, package, research, process, store, label and distribute products and materials within the guidelines of 21 CFR part 1271.

We strive to make innovative therapeutic products that are intended for homologous use only, and work within all applicable FDA, AATB (American Association of Tissue Banking), and GTP (Good Tissue Practices) guidelines. It is our mission to follow the highest regulatory standards and prioritize public safety and quality assurance.