



How is Intranasal Exosome Applied?

Exosomes, which are turned into a ready-to-use product after the production phase, can be applied intranasally as often as the physician decisions appropriate, although they vary according to the indications.



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ExoClinic

MSC DERIVED EXOSOMES

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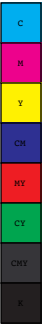
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MSC DERIVED EXOSOMES

INTRANASAL EXOSOME



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Mesenchymal Stem Cell Derived EXOSOME

What is an Exosome?

Exosomes are protein-containing lipid vesicles obtained by special processes from the culture medium of cells, containing many growth factors, which have the capacity to regulate cellular and biochemical events that play a role in cell renewal, regulation of the immune system(immunomodulation) and protection of neurological functions. ExoClinic, which is in the form of intranasal exosomes, are protein-containing lipid vesicles obtained by special processes from the culture medium of mesenchymal stem cells (MSCs) obtained from umbilical cord tissue (Wharton jelly), which contain many growth factors and have the capacity to regulate cellular and biochemical events that play a role in the protection of neurological functions and regulation of the immune system (immunomodulation).

- Stimulates cell proliferation and migration.
- Increases angiogenesis and neurogenesis.
- Regulates the immune system, inflammation, and immune response.
- Provides protection of neurological functions.

What are the Potential Uses of Intranasal Exosomes?

Exosomes are used in the fields of neurology and neurosurgery, targeting the regulation of the immune system, cell regeneration and protection of neurological functions. These potential application fields are;

- Treatment of Neurological Diseases,
 - Treatment of Neurodegenerative Diseases,
 - Treatment of Neurodevelopmental Disorders,
 - Treatment of Psychiatric Diseases,
 - Treatment of Neurobehavioral Disorders.
- The growth factors and cytokines it contains play an important role in ensuring treatment efficacy and provide immunomodulatory and neuroprotective effects.

How are Exosomes Produced?

Exosomes are obtained from umbilical cord accepted to Stembio Laboratory after undergoing all quality control processes in accordance with cGMP conditions. Mesenchymal stem cells separated from the tissue are multiplied in special culture dishes with cell-specific medium. Dead cell debris is removed from the culture medium. After the pre-treatment steps, exosomes are isolated by high-speed spinning using ultracentrifugation method. After the obtained exosomes pass quality control tests, the product is ready for use and stored under appropriate conditions.



Growth Factors (pg/ml)	Effects of Growth Factors
AR (Androgen receptor)	Regulation of nervous system development and maintenance
EGF (Epidermal growth factor)	Cellular proliferation, differentiation, and survival
EG-VEGF (Endocrine gland-derived VEGF)	Stimulation of angiogenesis and cell proliferation
GDF15 (Growth differentiation factor -15)	Regulation of inflammation, apoptosis, cell regeneration and growth
GDNF (Glial cell-derived neurotrophic factor)	Survival of neurons
IGF1 (Insulin-like growth factor 1)	Stimulation of neurogenesis
IGFBP2 (IGF binding protein-2)	One of six IGF binding proteins that bind IGF-1 and IGF-2
IGFBP3 (IGF binding protein-3)	One of the IGF binding protein
IGFBP6 (IGF binding protein-6)	One of the IGF binding protein
NGF (Nerve growth factor)	Protection, proliferation, survival, and growth of
NGFR (Nerve growth factor receptor)	Neural cell growth factor receptor
NT3 (Neurotrophin-3)	Stimulation of neurogenesis
NT4 (Neurotrophin-4)	Growth and survival of nerve cells
TGFB1 (Transforming growth factor beta 1)	Stem cell differentiation, T cell regulation and differentiation
BDNF ELISA Kit (Brain-derivedneurotrophic factor)	Promoting the survival and growth of neurons
IGFBP1 ELISA Kit (IGF binding protein-1)	Growth factor binding
IGFBP4 ELISA Kit (IGF binding protein-4)	Anti-tumorigenic effect
SCFR/CD117/C-kit ELISA Kit Stem Cell Factor Receptor)	Cell survival, proliferation, and differentiation
TGF-α ELISA Kit (Transforming growth factor alpha)	Cell migration, growth and differentiation
TGF-β3 ELISA kit(Transforming growth factor beta 3)	The most important anti-inflammatory protein. Conversion of inflammatory T cells into anti-inflammatory regulatory T cells
VEGF ELISA Kit (Vascular endothelial growth factor)	Formation of new blood vessels

