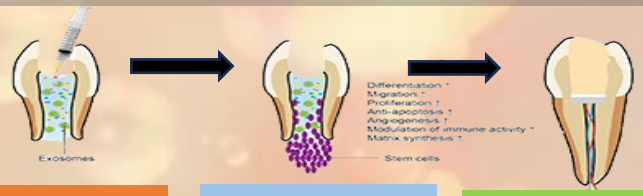
39th IACDE National Conference

HARNESSING EXOSOMES:THE FUTURE OF REGENERATIVE DENTISTRY

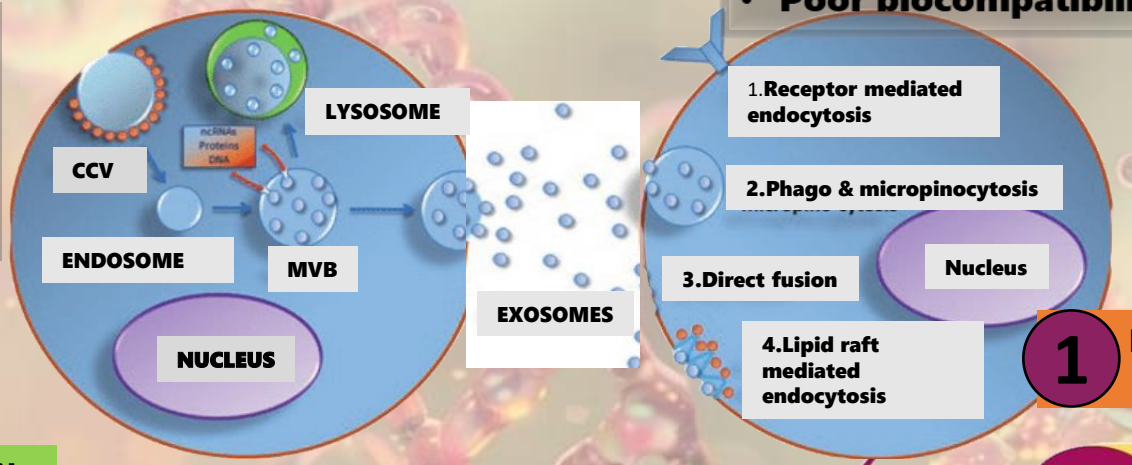
EXOSOME-"Outside" or "outer shell"

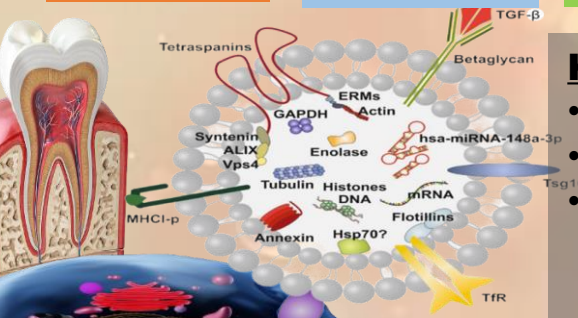
WHAT CHARACTERIZES AN EXOSOME?

- ✓ Cell-to-Cell Communication
- ✓ Homologus to parentral cell



APPLICATION | EFFECT | REGENERATION



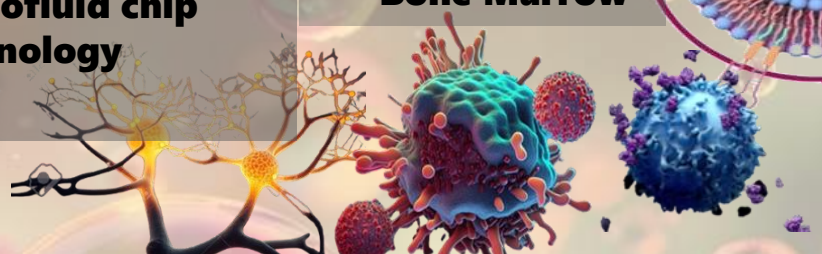


HOW TO ISOLATE?

- Ultracentrifugation
- Ultrafiltration
- Microfluid chip technology

SOURCES

- Dental Pulp
- Adipose tissue
- IPS Cells
- Bone Marrow



WHY NOT STEM CELLS ?

- Potential tumorigenic risk
- Immune rejection
- Poor biocompatibility

CHALLENGES

- ✓ Heterogenicity
- ✓ Purity

STEM CELLS VS EXOSOME....

- *Cellular & Acellular*
- *100x smaller than stem cells*

ADVANTAGES

1. EFFICIENTLY TRANSVERSE BIOLOGICAL BARRIER.
2. STRONG BIOCOMPATIBILITY & STABILITY.
3. MINIMAL IMMUNOGENECITY.
4. INCREASED THERAPEUTIC EFFICACY & REDUCED CYTOTOXICITY.
5. TARGETED DRUG DELIVERY& LONGER HALF LIFE.