
Stem Cells from human exfoliated deciduous teeth and SHED Bank: A Mini View

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Abstract

INTRODUCTION

Stem cells are generally defined as colonogenic cells capable of both self renewal and multi-lineage differentiation.

Postnatal stem cells have been isolated from variety of tissues including but not limited to brain, bone marrow, skeletal muscle, hair follicles and dental pulp. The transition from deciduous teeth to adult permanent teeth is a very unique and dynamic process in which development and eruption of permanent teeth coordinate with the resorption of the roots of deciduous teeth. It may take > 8 years in humans to complete the ordered replacement of 20 deciduous teeth (Rai et al 2005). Stem cells from exfoliated deciduous tooth (SHED) is similar in umbilical cord stem cells.

CHARACTERISTICS OF SHED

- There was ability to differentiate into odontoblasts.
- It was unable to regenerate a complete dentin pulp like complex.
- It was capable inducing recipient murine cells to differentiate into bone forming cell.
- It form either single or multiple colonies were found to form dentin – like tissue.

- It expressed a variety of neural cell markers.

IMPORTANCE

Because of ability to bone formation, expressed of neural cell marker and odontoblastic formation, it can be used in repair damaged tooth structures, induce bone regeneration and to treat neural tissue injury.

SHED BANK

- Exfoliated deciduous teeth like as other bank properly for SHED banking.
- SHED bank should be established as DNA bank or blood bank.
- SHED bank should be maintain ethical parameters.

CONCLUSION

Deciduous teeth may be an ideal resource of stem cells to repair damaged tooth structures, induce bone regeneration and neural tissue injury.

References

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