Docket #: S11-044

Adult salivary stem cell enrichment

A team of Stanford researchers have identified a novel small molecule that could be used in vivo or ex vivo to enrich for submandibular salivary gland (SMG) stem cell (SC). This compound is an isozyme-specific activator of an enzyme expressed in adult mouse and human salivary cells and has been used to increase the yield of salivary cells in vivo in mice. The agent could be used to enrich for SMG SC for either therapeutic or research applications. For example, SMG cell replacement therapy could help treat xerostomia (dry mouth) in patients with head and neck cancers who have undergone radiation therapy. The cells could also be used to study stem cell regeneration.

Stage of Research
The inventors have characterized the expression of this enzyme in SMG cells and used the activator compound in vivo to increase SMG SC yield in a mouse radiotherapy model.

Advantages

- **Unmet medical need** - xerostomia is a common side effect from radiation therapy for head and neck cancer, however current treatments require chronic use and are often ineffective
- **Isozyme-specific agent** - unlikely to activate other members of the enzyme family

Publications

- Published US Application US20140323520

Patents

- Published Application: WO2012149106
- Published Application: 20140323520
- Issued: 10,457,659 (USA)

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