OTOSTEM (S)



HUMAN STEM CELL APPLICATIONS FOR THE TREATMENT OF HEARING LOSS

**Project Coordinator** Hubert Löwenheim Eberhard Karls University of Tübingen

info@otostem.org www.otostem.org



The lack of human otic cell models represents a significant roadblock hampering the development of drug-based or cell-based therapies. Hearing impairment is the most frequent human sensory deficit and is mainly caused by the irreversible loss of neurosensory cells in the cochlea.

www.otostem.org

## CELL-BASED THERAPY

## HUMAN STEM CELL TECHNOLOGY

## DRUG-BASED THERAPY

OTOSTEM uses purified, human stem cells for local transplantion into the cochlea to develop a cell-based hearing loss treatment.



OTOSTEM addresses the urgent and unmet medical need for causal hearing loss therapies by focusing on human stem cell technology. We will follow two major directions to implement a therapeutic use of human stem cell technology for hearing loss. OTOSTEM employs human stem cells to generate human otic cellular models to allow screening for ototoxic, otoprotective and otoregenerative compounds to develop a drug-based hearing loss treatment.

Our consortium addresses stem cell proliferation, differentiation and biological activity with relevance for the auditory system in an interdisciplinary approach and combines the expertise of European and US leading academic inner ear laboratories and European SMEs







