Class I and Class II small leucine-rich proteoglycans in human cutaneous pacinian corpuscles

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Pacinian corpuscles are onion bulb-like multilayered mechanoreceptors that consist of a complicated structure of axon terminals, Schwann related cells (inner core), endoneural related cells (intermediate layer) and perineurial related cells (outer core-capsule). The cells forming those compartments are continuous and share the properties of that covering the nerve fibers. Small leucine-rich proteoglycans are major proteoglycans of the extracellular matrix and regulate collagen fibrillogenesis, cell signalling pathways and extracellular matrix assembly. Here we used immunohistochemistry to investigate the distribution of class I (biglycan, decorin, asporin, ECM2 and ECMX) and class II (fibromodulin, lumican, prolargin, keratocan and osteoadherin) small leucine-rich proteoglycans in human cutaneous Pacinian corpuscles. The distribution of these compounds was: the inner core express decorin, biglycan, lumican, fibromodulin, osteoadherin; the intermediate layer display immunoreactivity for osteoadherin; the outer core biglycan, decorin, lumican, fibromodulin and osteoadherin; and the capsule contains biglycan, decorin, fibromodulin, and lumican. Asporin, prolargin and keratocan were undetectable. These results complement our knowledge about the distribution of small leucine-rich proteoglycans in human Pacinian corpuscles, and help to understand the composition of the extracellular matrix in these sensory formations.

GmbH

Extracellular matrix

Human

Pacinian corpuscles

Small leucine-rich proteoglycans

asporin

biglycan

decorin

fibromodulin

keratocan

lumican

osteoadherin

prolargin

small leucine rich proteoglycan

small leucine rich proteoglycan class I

small leucine rich proteoglycan class II

unclassified drug

biglycan

CD34 antigen

decorin

fibromodulin

osteoadherin

protein S 100

proteoglycan

scleroprotein

vimentin

adolescent

adult

aged

Article

child

controlled study

extracellular matrix

human

human experiment

human tissue

immunohistochemistry

immunoreactivity

normal human

Pacini corpuscle

protein analysis

protein expression

protein localization

signal transduction

anatomy and histology

animal

chemistry

classification

Equidae

finger

fluorescent antibody technique

goat

Leporidae

middle aged

mouse

Pacini corpuscle

skin

young adult

Adolescent

Adult

Animals

Antigens, CD34

Biglycan

Child

Decorin

Equidae

Extracellular Matrix Proteins

Fibromodulin

Fingers

Fluorescent Antibody Technique

Goats

Humans

Immunohistochemistry

Mice

Middle Aged

Pacinian Corpuscles

Proteoglycans

Rabbits

S100 Proteins

Skin

Vimentin

Young Adult