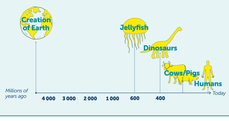
Jellagen
MARINE BIOTECHNOLOGIES

CLASH OF THE COLLAGENS

Choosing the correct collagen substrate is an important decision to make, as one collagen may be more suitable than another. But how do you know which collagen is right for your research and application? To help you decide, we have created a handy comparative infographic of four main sources of collagen: Jellyfish, Rat, Bovine & Porcine.

EVOLUTION

what is the evolutionary history of each organism?



RESEARCH HISTORY

how long has this collagen been used for cell culture?

An innovative new material in use for **just a few years**	In use for **more than 30 years**	In use for **more than 30 years**

COLLAGEN TYPE

which type of collagen is each source consistent with?

Homologous to type I, II, III, V and IX	**Type I**	**Type I, II or III**

PHYSIOLOGY

how complicated is the physical structure of each collagen?

Simple	**Complex**	**Complex**

IMMUNOGENICITY

what is the likelihood of each collagen type producing an immune response in humans?

Very low	**Medium**	**Low**

NON-EXOGENOUS CONTAMINANTS

MicroRNA

how many sequences of this class of non-coding RNAs does each collagen have?

29 sequences	**Unknown**	**400 sequences**

AVAILABLE PRODUCTS

how many products are commercially available for each collagen type?

5 (liquid/dry, coated plates, 3D scaffolds and hydrogel)	**2** (coated plates and gels)	**Many different forms**

SUSTAINABILITY

how environmentally-friendly is each form of collagen?

Source has a **low carbon footprint** Provided in **environmentally-friendly packaging** A naturally abundant **pest species**	Bred for purpose in **small volumes**	Bred for purpose in **controlled herds** **High carbon footprint** High use of **non-recyclable plastic**

BSE AND DISEASE VECTOR STATUS

how prevalent are diseases such as BSE in typical samples of this collagen?

BATCH-TO-BATCH CONSISTENCY

how much do batches of each collagen differ from each other (affecting cell culture results)?

Naturally high consistency	**Consistent if commercially manufactured**	**Consistent if commercially manufactured**

QUALITY CONTROL

does each type of collagen satisfy specific compliance regimes?

Yes ISO 13485	**Yes** but only if commercially manufactured	**Yes** highly controlled and certified due to potential for transferring diseases to humans

AVERAGE COST

£	**££**	**££/£££**

TRANSLATABILITY FOR HUMAN TRIALS

SUITABILITY FOR IN VIVO RESEARCH

COMMON APPLICATIONS			
TISSUE ENGINEERING	Yes	No	Yes
WOUND REPAIR	Yes	No	Yes
BONE REPAIR	Yes	No	Yes
CARTILAGE REPAIR	Yes	No	Yes
IMPLANTABLE DEVICES (E.G. NERVE WRAPS)	Yes	No	Yes
CELL CULTURE	Yes	Yes	Yes