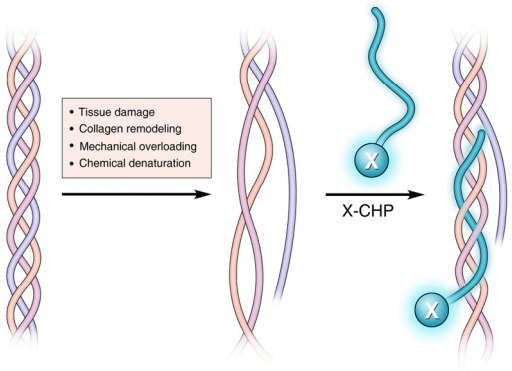
How CHP works

Collagen has a unique triple helical structure that is unfolded in tissues during diseases, development, mechanical injury, and decellularization.



Collagen Hybridizing Peptide (CHP) specifically binds to unfolded collagen molecules, by forming the same triple helical structure with the denatured collagen chains, in a way similar to a primer binding to a melted DNA strand during PCR, enabling unlimited laboratory applications in pathology, biomechanics, regenerative medicine, and more.

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3Helix

SALT LAKE CITY, UTAH

COLLAGEN HYBRIDIZING PEPTIDES FOR TARGETING DAMAGED COLLAGEN MOLECULES IN DISEASE AND INJURY

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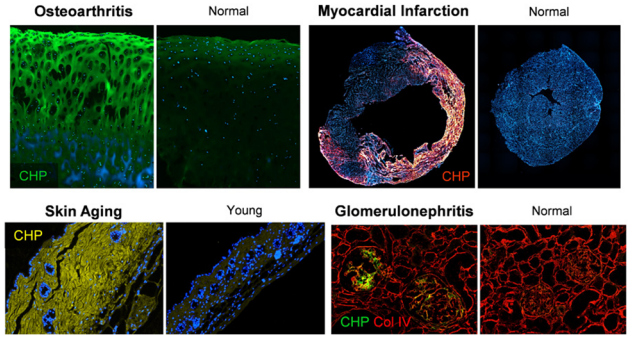
Applications

1. Histopathology

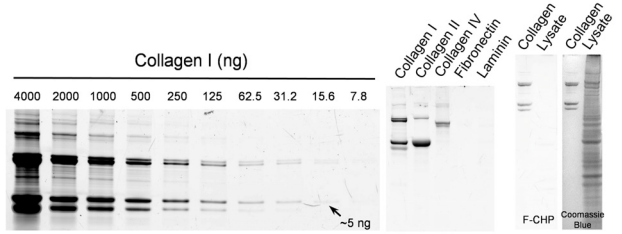
CHP marks tissue damage and remodeling under many pathologic and physiologic events through binding to degraded collagen.



[1] *In situ* imaging of tissue remodeling with collagen hybridizing peptides. ***ACS Nano*** (2017)
[2] Targeting collagen strands by photo-triggered triple-helix hybridization. ***PNAS*** (2012)

2. Collagen Identification

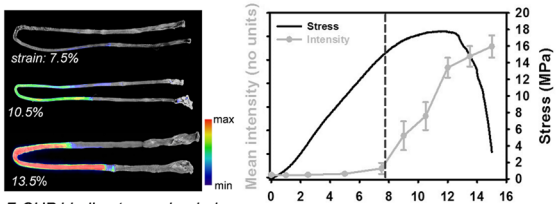
CHP visualizes collagen bands of all types in SDS-PAGE with high specificity.



[3] Direct detection of collagenous proteins by fluorescently labeled collagen mimetic peptides. ***Bioconjugate Chemistry*** (2013)

3. Mechanical Damage

CHP enables measuring and localizing mechanical injury to collagenous tissue at the molecular level in almost all possible tissue types, including *bone*, *cartilage*, *tendon*, *ligament*, *intervertebral discs*, *heart valves*, *blood vessels*, *skin*, *cornea* and more.

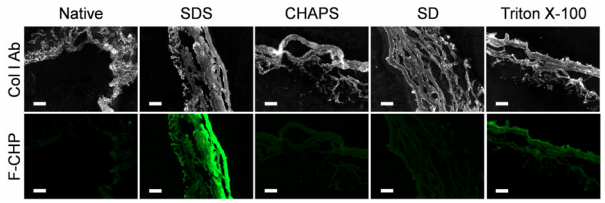


F-CHP binding to overloaded tendon fascicles

[4] Molecular level detection and localization of mechanical damage in collagen enabled by collagen hybridizing peptides. ***Nature Communications*** (2017)

4. Tissue Decellularization

CHP allows direct and quantitative assessment of denatured collagen in the ECM materials decellularized with different detergents and protocols.



[5] Molecular assessment of collagen denaturation in decellularized tissues using a collagen hybridizing peptide. ***Acta Biomaterialia*** (2017)

Products

Product number	Size	Price ($)
Collagen Hybridizing Peptide, 5-FAM Conjugate		
FLU60	60 µg	198.00
FLU300	300 µg	550.00
5-FAM tag for straightforward fluorescence detection		
Collagen Hybridizing Peptide, Biotin Conjugate		
BIO60	60 µg	198.00
BIO300	300 µg	550.00
Biotin for flexible avidin / streptavidin mediated detection options based on needs		

Usages: immunofluorescence, immunohistochemistry, SDS-PAGE (in-gel western)

	CHP	Sirius red / Masson's trichrome	Collagen antibodies	C1,2C antibody	In situ zymography	SHG	TEM
Detecting denatured collagen	✓	✗	✗	✓	✓	✓	✓
A direct method	✓			✓	✗	✗	✗
Applicable to multiple collagen types	✓			✗		✗	✗
Applicable to mm-sized tissue samples	✓				✓	✓	✗
No control test needed	✓				✗	✓	✓
No advanced instrument or specialized skill needed	✓					✗	✗

- A non-antibody approach with no species restrictions
- High affinity with essentially no nonspecific binding
- Applicable to nearly every tissue type
- Applicable to collagens of all types from all species
- Suitable for both frozen and FFPE slides
- Stable at 4 °C, no need to aliquot for storage