

Acid-extracted collagen

This is the collagen fraction that can be extracted with dilute acid alone. This is referred to as “telo-collagen” as the non-helical telopeptide regions remain intact.

Pepsin-extracted collagen

This is the collagen fraction that can be extracted by Pepsin treatment in a dilute acid. This is also termed pepsin-soluble collagen and “atelo-collagen” since the pepsin treatment results in cleavage of the telopeptide region

Soluble collagen

Both acid and pepsin extracted collagens are soluble in weak acid but insoluble in physiological conditions. Some raw collagen is not extracted by weak acid. This is termed “insoluble” or “fibrous” collagen.

Comparison of acid soluble (telo) form and pepsin soluble (atelo) form of OptiCol™ collagen type I

Collagen	Amino terminal telopeptide	Triple Helical region	Collagen Type I polypeptide
Acid Soluble (telo)	pQLSYGYDEKSTGISVP	GPMGPSGPRGLOGPOGAOG.....	α-1
	pQLSYGYDEKSTGISVP	GPMGPSGPRGLOGPOGAOG.....	α-2
	pQFDAKGGGP	GPMGLMGPRGPOGASGOAG.....	α-3
Pepsin Soluble (atelo)	ISVP	GPMGPSGPRGLOGPOGAOG.....	α-1
	DEKSTGISVP	GPMGPSGPRGLOGPOGAOG.....	α-2
	DAKGGGP	GPMGLMGPRGPOGASGOAG.....	α-3

Comparison of properties of acid soluble (telo) form and pepsin soluble (atelo) form of OptiCol™ collagen type I

Collagen	Telopeptide	Gel Strength	Gel structure	Gel Appearance
Acid Soluble (telo)	Intact	Very good	Straight fibrils, mesh like	Transparent to translucent white
Pepsin Soluble (atelo)	Removed	Good	Loosely twisted fibrils, smaller mesh, sponge like	Transparent