

ELISA Grade Type I and Type II Collagen

Catalog # 1001-1006, 2011-2017

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INTRODUCTION

Chondrex provides highly purified, polymeric-free ELISA grade collagen. Various species and types of collagen can be used as an antigen in ELISA for studying antibody specificity and cross-reactivity (Table 1). Since collagen is a rigid fibrillar protein with unique physical and chemical properties and differs from other globular proteins, special attention for handling this protein is required. For example, immunoglobulins in human and animal sera bind to polymeric and fibrillar collagen non-specifically, and create significantly high false-positive reaction in ELISA. Similarly, a secondary antibody in ELISA also binds to fibrillar collagen non-specifically and creates high background values. Furthermore, these forms of collagen affect the assay sensitivity significantly due to the formation of excess collagen layer on the surfaces of ELISA plate.

ELISA grade collagen is supplied as a 100X concentrated solution (0.5 mg/mL). Each vial contains enough collagen to coat ten, 96-well plates. A 10X Collagen Dilution Buffer (catalog # 9003) is also included per order of ELISA grade collagen to prevent fibril formation.

PROCEDURE FOR COATING ELISA PLATES

1. Dilute 1 mL of 10X Collagen Dilution Buffer with 9 mL of cold (refrigerated) glass distilled water.
2. Add 100 μ L of ELISA grade type I or type II collagen solution to 10 mL of 1X collagen dilution buffer prepared in step 1.
3. Add 100 μ L of the diluted collagen solution to each well and incubate at 4°C overnight. Cover the ELISA plate to prevent evaporation.

Note: The binding efficiency of collagen on ELISA plates depends upon the type of plastic and pre-treatment of the surface. Therefore, we recommend using a high binding plate such as Immulon 2 HB. Mouse monoclonal anti-type II collagen antibody (catalog # 7005), which cross-reacts to all species of type II collagen listed in Table 1, can be used as a positive control or to study the binding efficiency of individual species of type II collagen on ELISA plates.

Table 1 - ELISA grade collagen provided as 1 mL x 0.5 mg/mL, 0.05M acetic acid solution

Species	Type I Collagen Catalog #	Type II Collagen Catalog #
Chick	1001	2011
Bovine	1002	2012
Porcine	1003	2013
Rat	1004	2014
Human	1005	2015
Mouse	1006	2016
Monkey	-----	2017