Collagen X Monoclonal Antibody (X53),
eBioscience™

<table>
<thead>
<tr>
<th>Details</th>
<th>Species Reactivity</th>
<th>Published species reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>25 µg</td>
<td>Dog, Guinea pig, Human, Mouse, Pig, Rat</td>
</tr>
<tr>
<td>Host/Isotope</td>
<td>Mouse / IgG1, kappa</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Class</td>
<td>Monoclonal</td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Antibody</td>
<td></td>
</tr>
<tr>
<td>Clone</td>
<td>X53</td>
<td></td>
</tr>
<tr>
<td>Conjugate</td>
<td>Unconjugated</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Concentration</td>
<td>0.5 mg/mL</td>
<td></td>
</tr>
<tr>
<td>Purification</td>
<td>Affinity chromatography</td>
<td></td>
</tr>
<tr>
<td>Storage buffer</td>
<td>PBS, pH 7.2</td>
<td></td>
</tr>
<tr>
<td>Contains</td>
<td>0.09% sodium azide</td>
<td></td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>4° C</td>
<td></td>
</tr>
</tbody>
</table>

**Tested species reactivity**
- Dog
- Guinea pig
- Human
- Mouse
- Pig
- Rat

**Published species reactivity**
- Not Applicable

**Tested Applications**
- ELISA (ELISA): Assay-Dependent
- Immunocytochemistry (ICC): Assay-Dependent
- Immunofluorescence (IF): Assay-Dependent
- Immunohistochemistry (Paraffin) (IHC (P)): 10 µg/mL

**Published Applications**
- Miscellaneous PubMed (MISC): See 4 publications below

**Product specific information**

Description: The monoclonal antibody X53 recognizes human, mouse, porcine, guinea pig, and rat Collagen Type X. X53 does not cross-react with collagen types I, II, III, IV, or VI. Collagen Type X is a homotrimeric short chain collagen. Collagen Type X has limited expression in normal adult tissues, primarily being expressed during bone growth and development. Expression is localized to the peri- and extracellular matrix of hypertrophic chondrocytes during endochondral ossification and also plays a role in cartilage mineralization. Collagen Type X is elevated in many tumor types with expression being localized in the vasculature. Mutations to the gene COL10A1, which encodes human Collagen Type X, is associated with Schmid type metaphyseal chondrodysplasia.

Applications Reported: This X53 antibody has been reported for use in microscopy, immunohistochemical staining, ELISA, and immunocytochemistry.

Applications Tested: This X53 antibody has been tested by immunohistochemistry on formalin-fixed paraffin embedded human tissue using low pH antigen retrieval and can be used at less than or equal to 10 µg/mL. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

Purity: Greater than 90%, as determined by SDS-PAGE.

Aggregation: Less than 10%, as determined by HPLC.

Filtration: 0.2 µm post-manufacturing filtered.

**Background/Target Information**

Type X collagen is a product of hypertrophic chondrocytes and has been localized to presumptive mineralization zones of hyaline cartilage.

**Product Images For Collagen X Monoclonal Antibody (X53), eBioscience™**

**Collagen X Antibody (14-9771-80) in IHC (P)**

Immunohistochemistry of formalin-fixed paraffin embedded human infiltrating ductal carcinoma tissue using 10 µg/mL of Mouse IgG1 K Isotype Control Purified (left) or 10 µg/mL of Anti-Collagen Type X Purified (right) followed by Anti-Mouse IgG Biotin, Streptavidin HRP, and DAB visualization. Nuclei are counterstained with hematoxylin.


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### PubMed References For Collagen X Monoclonal Antibody (X53), eBioscience™

#### 4 Miscellaneous PubMed References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
</table>
"**COL10A1 expression is elevated in diverse solid tumor types and is associated with tumor vasculature.**"  
Author(s): Chapman KB, Prendes MJ, Sternberg H, Kidd JL, Funk WD, Wagner J, West MD  
PubMed Article URL: [http://dx.doi.org/10.2217/fon.12.79](http://dx.doi.org/10.2217/fon.12.79) |
| Not Applicable / Not Cited | **The Journal of biological chemistry** (Feb 1998; 273: 4547)  
"**Characterization of human type X procollagen and its NC-1 domain expressed as recombinant proteins in HEK293 cells.**"  
Author(s): Frischholz S, Beier F, Girko-Iaitiene I, Wagner K, Pöschl E, Turnay J, Mayer U, von der Mark K  
PubMed Article URL: [http://dx.doi.org/null](http://dx.doi.org/null) |
"**Immunolocalization of type X collagen in normal fetal and adult osteoarthritic cartilage with monoclonal antibodies.**"  
Author(s): Girko-Iaitiene I, Frischholz S, Lammi P, Wagner K, Swoboda B, Aigner T, von der Mark K  
PubMed Article URL: [http://dx.doi.org/null](http://dx.doi.org/null) |
| Not Applicable / Not Cited | **Human molecular genetics** (Feb 1994; 3: 303)  
"**Additional mutations of type X collagen confirm COL10A1 as the Schmid metaphyseal chondrodysplasia locus.**"  
Author(s): McIntosh I, Abbott MH, Warman ML, Olsen BR, Francomano CA  
PubMed Article URL: [http://dx.doi.org/null](http://dx.doi.org/null) |