Creative Enzymes®

# Immobilized Papain (Agarose Resin)

*Cat. No. NATE-1864*

*Lot. No.* (See product label)

## Introduction

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| ***Description*** | Immobilized Papain is convenient for producing Fab and Fc fragments from a variety of IgG species. Papain is a nonspecific, thiol-endopeptidase that has a sulfhydryl group in the active site, which must be in the reduced form for activity. When IgG molecules are incubated with papain in the presence of cysteine, one or more peptide bonds in the hinge region are split, producing three fragments of similar size: two Fab fragments and one Fc fragment. The Fc fragments can be separated from the Fab fragments using immobilized Protein A or by ion exchange chromatography. The 50,000Da Fc fragment is often used for determining specificity of the Fc receptors without interference from antigen binding. Interactions of immunoglobulin molecules with Fc receptors help regulate the physiology of the cell and alteration in Fc receptor function may cause onset or progression of certain diseases. By following the interaction of Fc receptors and immunoglobulins, the phenomenon of cell surface recognition mediation and activation can be studied. Fab fragments are useful in immunohistochemical studies because the fragments penetrate the tissue better than intact IgG. Also, nonspecific binding from Fc receptors is avoided by using only the Fab portion of the immunoglobulin. Using Immobilized Papain allows generation of fragments without contamination of the final preparation with enzyme. Immobilization increases enzyme stability against heat denaturation and autolysis and results in longer maintenance of activity. Cleavage can be regulated via digestion time or flow rate through a column. Immobilized Papain is effective with small volumes of dilute proteins and yields reproducible digests. |
| ***Synonyms*** | Immobilized Papain |

## Product Information

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| ***Form*** | 50% slurry (10mL total volume) in 50% glycerol, 0.1M sodium acetate, pH 4.4 containing 0.05% sodium azide. |
| ***EC Number*** | EC 3.4.22.2 |
| ***Activity*** | 16-40 BAEE units per milligram of papain before immobilization. |
| ***Concentration*** | 250µg papain/mL of settled gel |

## Storage and Shipping Information

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| ***Storage*** | Upon receipt store at 4°C. Product is shipped at ambient temperature. |