

- Any inflammatory process
  - Soft tissue trauma/inflammation (acute)
  - Sports injuries
  - Arthritis
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- Capsule format along with the enteric coating of proteolytic ingredients allows for maximum absorption and utilization.
  - Powerful, broad spectrum, anti-inflammatory enzyme ingredients.
  - The combination of the pancreatin (standardized to high content of chymotrypsin and trypsin), peptizyme and peptidase provide comprehensive proteolytic action.

Flexizyme™ is formulated specifically for decreasing both acute and chronic inflammatory processes. This powerful combination of proteolytic enzymes from three different sources: plant (bromelain, papain), fungal (peptizyme) and animal (pancreatin) act synergistically to reduce swelling, bruising, and discomfort associated with inflammation due to trauma (especially sprains and strains), surgical procedures, and arthritis (OA and RA). This formula includes unique enteric coated Pancreatin and Peptizyme SP® which protects these two enzyme ingredients from being inactivated as they pass through the acidic medium of the stomach, while providing the benefits of a capsule over a tablet.

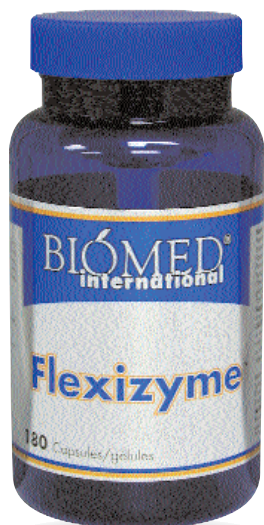
Bromelain is a concentrated extract from pineapple (*Ananas comosus*) that primarily acts as an anti-inflammatory agent<sup>1</sup> that is helpful in healing minor injuries, particularly sprains and strains, muscle injuries, as well as the pain, swelling, and tenderness that

accompany sports injuries<sup>2</sup>. Bromelain has been found to be effective in reducing pain and swelling in patients with knee pain or rheumatoid arthritis.<sup>3&4</sup> A double-blind study showed bromelain to be clinically efficacious in reducing swelling, bruising, and pain for women undergoing episiotomies.<sup>5</sup> In addition to treating trauma and sports injuries, bromelain may also be useful in the adjunctive treatment in mammary carcinoma by increasing immunocytotoxicity.<sup>6</sup> The proposed mechanism of action for bromelain's effect on the immune system suggests that it is helpful in modulating T cell and B cell responses, activating macrophages and increasing the action of natural killer cells.<sup>7&8</sup>

Papain is the enzyme mixture extracted from the latex of the tropical papaya (*Carica papaya*).<sup>9</sup> Papain is therapeutically active between pH 3 and 10 making it a valuable adjunct in treating dyspeptic complaints.<sup>10</sup> Moreover, as a proteolytic enzyme it has been found to be of effect in the treatment of numerous disorders including chronic gastritis and helminthic infections.<sup>11</sup>

Other ingredients in Flexizyme™ include Pancreatin. This animal based broad-spectrum enzyme contains amylase, lipase, protease, trypsin and chymotrypsin, all of which play an integral part of the digestion of proteins, fats, and carbohydrates. Moreover, research has shown that co-treatment with oral enzyme preparations containing trypsin chymotrypsin, and papain have reduced the adverse effects encountered by patients undergoing radiotherapy for both head, neck and uterine cancers.<sup>12&13</sup>

In addition to its radio-protective effects, hydrolytic or proteolytic enzymes cleave other proteins. Moreover under normal physiological condition, proteolytic enzymes maintain homeostasis by breaking down aberrant proteins that may arise during disease processes.<sup>14</sup> For example, proteolytic enzymes assist pediatric patients in their recovery from sepsis.<sup>15</sup> Moreover, oral therapy with proteolytic enzymes produce analgesic and anti-inflammatory effects and reduces posttraumatic and postoperative edema.<sup>14,16&17</sup>



**Composition:** One capsule contains:

<b>Ingredients:</b>		<b>Mode of Action:</b>
Bromelain (1800 MCU/gm) .....	45 mg	Anti-inflammatory, fibrinolytic, proteolytic, prevent platelet aggregation, induce cytokine production
Papain USP (6000 PU/mg).....	60 mg	Anti-inflammatory, proteolytic, antimicrobial, anti-ulcerative
*Pancreatin USP 6X .....	150 mg	Enzyme with proteolytic, amylolytic and lipolytic properties
- Trypsin (100-150 units/mg)		
- Chymotrypsin (15-50 units/mg)		
Peptidase (100,000 HUT/gm) .....	35 mg	Breaks down peptides
*Peptizyme SP® (100,000 u/gm) .....	50 mg	Caseinolytic (fibrinolytic) agent

**Side effects:** Can cause gastrointestinal upset

**Contraindications:** Do not take during pregnancy or lactation. Do not use in individuals with gastric or duodenal ulcers or with known or suspected sensitivity to any of the above listed ingredients. Enzymes should not be employed immediately before or after surgery on hemophiliacs.<sup>18</sup> Do not use concurrently with anticoagulant medication such as Warfarin or anti-platelet aggregating medication such as Plavix.

**ADULT DOSAGE:** Take 2 capsules 2-3 times a day or as directed by a health care practitioner.

\*ENTERIC COATED

References available on request

These enzyme formulas have been specially formulated and manufactured for Biomed by Specialty Enzymes and Biochemicals Co.