**Expression of thermostable native Cohnella sp. A01 carboxypeptidase and biochemical, kinetic characterization and determination of its inhibitory effect on tumor cells growth**

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**Abstract:**
Cohnella sp. A01 carboxypeptidase is a thermostable enzyme that can be used in various applications. The enzyme's optimal temperature range is 60°C, and its activity is significant at this temperature. The enzyme demonstrates broad substrate specificity, with high activity towards peptides and proteins containing hydrophobic residues.

**Methods:**
- The enzyme was purified from the bacterial culture and characterized for its thermal stability and optimal pH range.
- The inhibitory effect of the enzyme on tumor cells was determined using in vitro assays.

**Results:**
- The enzyme's optimal temperature range is 60°C, with activity decreasing at temperatures below 50°C and above 80°C.
- The enzyme's optimal pH range is pH 7.5, with activity decreasing at pH values below 5.0 and above 9.0.
- The enzyme shows a broad substrate specificity, with high activity towards peptides and proteins containing hydrophobic residues.

**Conclusion:**
Cohnella sp. A01 carboxypeptidase is a thermostable enzyme with broad substrate specificity and high activity at temperatures compatible with various applications. Further studies are needed to explore the enzyme's potential for use in biotechnology and medicine.

**References:**

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