**ENZYME MATCHING CHALLENGE**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block: \_\_\_\_\_\_**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ENZYME** | **SOURCE and Optimal pH** | **SUBSTRATE** | **PRODUCT** | **REACTION** |
| **LIPASES** |  |  |  |  |
| **PEPSIN** |  |  |  |  |
| **SALIVARY****AMYLASE****(Ptyalin)** |  |  |  |  |
| **TRYPSIN** |  |  |  |  |
| **ENZYME** | **SOURCE and Optimal pH** | **SUBSTRATE** | **PRODUCT** | **REACTION** |
| **MALTASE** |  |  |  |  |
| **NUCLEASES** |  |  |  |  |
| **PEPTIDASES** |  |  |  |  |
| **NUCLEOSIDASES** |  |  |  |  |
| **PANCREATIC****AMYLASE** |  |  |  |  |

**Source and Optimal pH**

|  |  |
| --- | --- |
| **1.** | **PANCREAS****pH =** **7.5 🡪8.5** |
| **2** | **STOMACH****(Gastric Glands)****pH =** **2 🡪3** |
| **3** | **PANCREAS****pH =** **7.5 🡪8.5** |
| **4** | **DUODENUM****pH =** **7.5 🡪8.5** |
| **5** | **Sublingual/****Parotid/****Submandibular****pH = 7** |
| **6** | **PANCREAS****pH =** **7.5 🡪8.5** |
| **7** | **DUODENUM****pH =** **7.5 🡪8.5** |
| **8** | **PANCREAS****pH =** **7.5 🡪8.5** |
| **9** | **DUODENUM****pH =** **7.5 🡪8.5** |

**SUBSTRATE**

|  |  |
| --- | --- |
| **1.** | **SMALL****PEPTIDE****CHAINS** |
| **2** | **NUCLEOTIDES** |
| **3** | **DNA/RNA****(Nucleic Acids)** |
| **4** | **PROTEINS** |
| **5** | **MALTOSE** |
| **6** | **STARCH** |
| **7** | **TRIGLYCERIDES****(FATS)** |
| **8** | **STARCH** |
| **9** | **PROTEINS** |

**PRODUCT**

|  |  |
| --- | --- |
| **1.** | **AMINOACIDS** |
| **2** | **NUCLEOTIDES** |
| **3** | **PHOSPHATE,****PENTOSE SUGAR &****NITROGENOUS BASE** |
| **4** | **SMALL****PEPTIDE****CHAINS** |
| **5** | **GLUCOSE****Molecules** |
| **6** | **SMALL****PEPTIDE****CHAINS**  |
| **7** | **MALTOSE** |
| **8** | **MALTOSE** |
| **9** | **GLYCEROL****&****FATTYACIDS** |

**REACTION IMAGES**

|  |  |
| --- | --- |
| **1** | Image result for triglyceride hydrolysis |
| **2** | Image result for hydrolysis of peptide bond |
| **3** | Image result for hydrolysis of starch into maltose |
| **4** | Image result for nucleotide Image result for components of a nucleotide |
| **5** | Image result for protein into peptide chains |
| **6** | Image result for starch to maltose reaction |
| **7** | Image result for protein into peptide chains |
| **8** | Image result for synthesis of nucleic acids |
| **9** | Image result for starch to maltose reaction |