We are pleased to present a choice of our thymosins and immunomodulatory peptides. For our complete range of peptides, amino acid derivatives, and biochemicals please visit shop.bachem.com.

### Thymosin α & β

**Thymosin α**
- Thymosin α₁, acetate salt (Thymalfasin) **H-7756**
- Thymosin α₁ trifluoroacetate salt (Thymalfasin) **H-6945**

Thymosin α₁, originally isolated from calf thymus, acts as an immunomodulator. Additionally, the peptide showed antiviral, angiogenic, and wound-healing activities. Thymosin α₁ was shown to activate tumor-associated macrophages.

**Thymosin β**
- Thymosin β₄ (human, bovine, horse, rat) (**H-2608**)

Thymosin β₄ is a 43 amino acid peptide which is regarded as the main intracellular G-actin sequestering peptide. Extracellular thymosin β₄ may contribute to physiological processes such as angiogenesis, wound healing, and regulation of inflammation. Additionally to its numerous functions thymosin β₄ might also be of therapeutic value in the setting of acute myocardial damage.

- (**[¹³C₆]Leu¹⁷**)-Thymosin β₄ (human, bovine, horse, rat) **H-7244**
- Stable isotope-labeled thymosin β₄ useful for pharmacokinetic/pharmacodynamic studies.
- Thymosin β₁₀ (human, rat) **H-2928**

Thymosin β₁₀ is differentially expressed in embryogenesis and neuronal development. Overexpression of the peptide has also been observed in many inflammatory conditions and in a variety of human cancers.

### Ac-Ser-Asp-Lys-Pro-ΟΗ (Thymosin β₄, 1-4, AcSDKP, Stem Cell Proliferation Inhibitor, Goralatide) **H-1156**

The bioactive tetrapeptide goralatide which corresponds to the N-terminus of Thymosin β₄, is a physiological regulator of hematopoiesis and inhibits the entry into the S-phase of murine and human hematopoietic stem cells. Ac-SDKP has been shown to reduce the damage to specific compartments in the bone marrow resulting from treatment with chemotherapeutic agents, ionizing radiations, hyperthermy, or phototherapy. It protects from doxorubicin-induced toxicity. Ac-SDKP is a physiological substrate of angiotensin I-converting enzyme (ACE).

### Immunomodulatory Peptides

**Tuftsin**
- Tuftsin **H-5035**

Tuftsin is a natural immunomodulating peptide originally found as a phagocytosis-stimulating factor for polymorphonuclear leukocytes. The peptide is now known to elicit various other activities including antimicrobial, antiviral and antitumor effects in vivo.

- (3,4-Dehydro-Pro³)-Tuftsin **H-8515**
- Tuftsin analog suitable for tritiation.
- Macrophage Inhibitory Peptide (Tuftsin (1-3)) **H-4300**

TKP tripeptide of the second constant domain of human immunoglobulin G (peptide 286-292) seems to be an inhibitor of the macrophage functions. As an enzymatic degradation product of tuftsin, it strongly reduces the macrophage-stimulating activity of the tetrapeptide.

- H-Thr-Lys-Pro-Pro-Arg-OH **H-5045**

A tuftsin antagonist. TKPPR, as tuftsin, binds selectively to the receptor neuropilin-1 and blocks the binding of VEGF-A.
### Thymopentin

**Thymopentin (TP-5) H-5805**

Thymopentin (TP5), an active fragment of thymopoietin (TP), reduces endocrine and behavioral responses to experimental stress, possibly by lowering plasma TP (pTP) levels. The immunomodulatory peptide suppresses proliferation and induces differentiation in HL-60 cells.

#### Various Peptides

<table>
<thead>
<tr>
<th>Peptide</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bursin (avian)</td>
<td>H-5920</td>
</tr>
<tr>
<td>H-Glu-Trp-OH (Thymogen)</td>
<td>G-1990</td>
</tr>
<tr>
<td>H-Glu-Trp-OH (Thymogen)</td>
<td>G-1990</td>
</tr>
<tr>
<td>H-D-Glu(Trp-OH)-OH (Golotimod)</td>
<td>G-4745</td>
</tr>
<tr>
<td>H-Gly-Leu-Phe-OH</td>
<td>H-3555</td>
</tr>
<tr>
<td>H-Leu-Leu-Tyr-OH</td>
<td>H-3940</td>
</tr>
</tbody>
</table>

**Thymopentin (TP-5)**, an active fragment of thymopoietin (TP), reduces endocrine and behavioral responses to experimental stress, possibly by lowering plasma TP (pTP) levels. The immunomodulatory peptide suppresses proliferation and induces differentiation in HL-60 cells.

**Platelet Factor 4 (58-70) (human) H-1174**

The C-terminal tridecapeptide of PF4 is, like the intact platelet factor, able to alleviate immunosuppression in mice. It is also fully active as an inhibitor of angiogenesis in the chicken chorioallantoic membrane. The angiostatic activity is obviously associated with the C-terminal, heparin-binding region of PF4.

**Rigin H-6920**

Phagocytosis-stimulating tetrapeptide originally isolated from human IgG.

**Splenopentin H-6930**

Splenopentin, RKEVY, is an immunomodulatory penta-peptide corresponding to the amino acid residues 32-36 of the splenic hormone splenin.

**Thymic Factor (Thymulin) H-4865**

For exerting its anti-inflammatory and immunomodulatory activity, the peptide hormone thymulin, pEAKSQGGSN, requires the presence of Zn(II). Thymulin showed promising results in experimental models of lung diseases as well as potential as an analgesic peptide.

**Lys-Thymic Factor (Lys-STF) H-4100**

The anti-infective peptide IDR-1 (innate defense-regulator peptide) can selectively modulate innate immune responses, thereby providing prophylaxis or treatment of a broad spectrum of bacterial infections, while balancing or controlling the attendant potentially damaging inflammatory response and minimizing the risk of sepsis.

**Platelet Factor 4 (58-70) (human) H-1174**

The C-terminal tridecapeptide of PF4 is, like the intact platelet factor, able to alleviate immunosuppression in mice. It is also fully active as an inhibitor of angiogenesis in the chicken chorioallantoic membrane. The angiostatic activity is obviously associated with the C-terminal, heparin-binding region of PF4.

**Rigin H-6920**

Phagocytosis-stimulating tetrapeptide originally isolated from human IgG.

**Splenopentin H-6930**

Splenopentin, RKEVY, is an immunomodulatory penta-peptide corresponding to the amino acid residues 32-36 of the splenic hormone splenin.

**Thymic Factor (Thymulin) H-4865**

For exerting its anti-inflammatory and immunomodulatory activity, the peptide hormone thymulin, pEAKSQGGSN, requires the presence of Zn(II). Thymulin showed promising results in experimental models of lung diseases as well as potential as an analgesic peptide.

**Lys-Thymic Factor (Lys-STF) H-4100**

The anti-infective peptide IDR-1 (innate defense-regulator peptide) can selectively modulate innate immune responses, thereby providing prophylaxis or treatment of a broad spectrum of bacterial infections, while balancing or controlling the attendant potentially damaging inflammatory response and minimizing the risk of sepsis.