Description

FIELD OF INVENTION

[0001] The present invention is related to the field of immunology. In particular, the present invention is directed to peptides and their pharmaceutical compositions which are capable of modulating an immune responses.

BACKGROUND OF INVENTION

[0002] Peptides are known in the art for treatment of diseases and as pharmaceutical compositions. For example, US Patent No.6,191,113 to discloses a peptide that has inhibitory activity for the growth of smooth muscle cells and is therefore useful for preventing and treating pathological conditions associated with growth of smooth muscle cells such as arteriosclerosis, restenosis after angioplasty, luminal stenosis after grafting blood vessel and smooth muscle sarcoma. US 6,184,208 discloses another peptide that is found to modulate physiological processes such as weight gain activity of the epithelial growth zone and hair growth.

[0003] Karelin c.s (Peptides, VOL. 16, N°4, 693-697, 1995) discloses the alpha-hemoglobin fragments (33-38) and (33-46) having respectively immunomodulating and ACTH releasing activity. US5861483 discloses the alpha-hemoglobin fragment (1-97) having immunomodulating activity.

SUMMARY OF INVENTION

[0004] It is therefore an object of the present invention to identify biologically active polypeptides. Many peptides were synthesized by standard chemical methods and screened for their biological activity. The peptides are given codes having the letters CMS followed by a number. A total of 30 peptides have been identified as having in vivo biological activities. The sequences and the corresponding ID numbers of these biologically active peptides are shown in Table A.

Table A

Sequence Listing ID No.	Peptide Name	Peptide Sequence
1	CMS001	Pro Thr Thr Lys Thr Tyr Phe Pro His Phe
2	CMS002	Val Val Tyr Pro Trp Thr Gln Arg Phe
3	CMS008	Lys Ala Val Gly His Leu Asp Asp Leu Pro Gly Ala Leu
4	CMS010	Val Ala Pro Glu Glu His Pro Thr Leu Leu Thr Glu Ala Pro Leu Asn Pro Lys
5	CMS012	Leu Gly Met Glu Ala Cys Gly Ile His Glu Thr Thr Tyr
6	CMS013	Leu Arg Val Ala Pro Glu Glu His Pro Val Leu
7	CMS014	Ala Ala His His Pro Asp Asp Phe Asn Pro Ser Val
8	CMS015	Pro Ser Ile Val Gly Arg Pro Arg His Gln Gly Val Met
9	CMS016	Ile Gly Met Glu Ser Ala Gly Ile His Glu Thr Thr Tyr
10	CMS018	Val Gly Met Gly Glu Lys Asp Ser Tyr
11	CMS019	Val Gly Met Gly Gln Lys Asp Ser Tyr
12	CMS020	Val Gly Met Gly Gln Lys Asp Ser Tyr Val
13	CMS021	Met Ala Thr Ala Ala Ser Ser Ser Ser Leu
14	CMS022	Tyr Ser Phe
15	CMS023	Ala Ala Phe
16	CMS024	Tyr Ser Leu
17	CMS026	Thr Thr Tyr Asn Ser Ile Met
18	CMS027	Phe Glu Glu Asn Met
19	CMS028	Phe Glu Pro Ser Phe

BIOLOGICALLY ACTIVE PEPTIDES

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6	CMS013	Leu Arg Val Ala Pro Glu Glu His Pro Val Leu
7	CMS014	Ala Ala His His Pro Asp Asp Phe Asn Pro Ser Val
8	CMS015	Pro Ser Ile Val Gly Arg Pro Arg His Gln Gly Val Met
9	CMS016	Ile Gly Met Glu Ser Ala Gly Ile His Glu Thr Thr Tyr
10	CMS018	Val Gly Met Gly Glu Lys Asp Ser Tyr
11	CMS019	Val Gly Met Gly Gln Lys Asp Ser Tyr
12	CMS020	Val Gly Met Gly Gln Lys Asp Ser Tyr Val
13	CMS021	Met Ala Thr Ala Ala Ser Ser Ser Ser Leu
14	CMS022	Tyr Ser Phe
15	CMS023	Ala Ala Phe
16	CMS024	Tyr Ser Leu
17	CMS026	Thr Thr Tyr Asn Ser Ile Met
18	CMS027	Phe Glu Glu Asn Met
19	CMS028	Phe Glu Pro Ser Phe