



Tumor-associated antigen human chorionic gonadotropin beta contains numerous antigenic determinants recognized by in vitro-induced CD8+ and CD4+ T lymphocytes.

Submitted by Mireille Wertheimer on Tue, 01/27/2015 - 11:08

Titre	Tumor-associated antigen human chorionic gonadotropin beta contains numerous antigenic determinants recognized by in vitro-induced CD8+ and CD4+ T lymphocytes.
Type de publication	Article de revue
Auteur	Dangles, Virginie [1], Halberstam, Ilan [2], Scardino, Antonio [3], Choppin, Jeannine [4], Wertheimer, Mireille [5], Richon, Sophie [6], Quelvennec, Erwann [7], Moirand, Romain [8], Guillet, Jean-Gérard [9], Kosmatopoulos, Kostas [10], Bellet, Dominique [11], Zeliszewski, Dominique [12]
Editeur	Springer Verlag
Type	Article scientifique dans une revue à comité de lecture
Année	2002
Langue	Anglais
Date	02/2002
Numéro	12
Pagination	673-81
Volume	50
Titre de la revue	Cancer Immunology, Immunotherapy
ISSN	0340-7004
Mots-clés	Amino Acid Sequence [13], Antigen Presentation [14], Antigens, Neoplasm [15], CD4-Positive T-Lymphocytes [16], CD8-Positive T-Lymphocytes [17], Chorionic Gonadotropin, beta Subunit, Human [18], Epitopes, T-Lymphocyte [19], Histocompatibility Antigens Class II [20], HLA-A2 Antigen [21], Humans [22], Molecular Sequence Data [23]

Résumé en
anglais

The beta subunit of human chorionic gonadotropin (hCG beta) is markedly overexpressed by neoplastic cells of differing histological origin including those present in colon, breast, prostate and bladder tumors. We have previously shown that some patients with hCG beta-producing urothelial tumors have circulating T cells that proliferate in response to hCG beta. To make a comprehensive study of hCG beta as a potential target for cancer immunotherapy, we investigated whether hCG beta peptides could induce CD4+ or CD8+ T-cell responses in vitro. By stimulating peripheral blood mononuclear cells (PBMCs) from three donors with mixtures of overlapping 16-mer synthetic peptides analogous to portions of either the hCG beta 20-71 or the hCG beta 102-129 region, we established six CD4+ T-cell lines that proliferated specifically in response to five distinct determinants located within these two hCG beta regions. Three antigenic determinants (hCG beta 52-67, 106-121 and 114-125) were presented by HLA-DR molecules, while the two other antigenic determinants (hCG beta 48-63 and 56-67) were presented by HLA-DQ molecules. Interestingly, one T-cell line specific for peptide hCG beta 106-121 recognized hCG beta peptides comprising, at position 117, either an alanine or an aspartic acid residue, with the latter residue being present within the protein expressed by some tumor cells. In addition, three other hCG beta-derived peptides that exhibited HLA-A*0201 binding ability were able to stimulate CD8+ cytotoxic T cells from two HLA-A*0201 donors. These three immunogenic peptides corresponded to regions hCG beta 40-48, hCG beta 44-52 and hCG beta 75-84. Our results indicate that the tumor-associated antigen hCG beta possesses numerous antigenic determinants liable to stimulate CD4+ and CD8+ T lymphocytes, and might thus be an effective target antigen for the immunotherapy of hCG beta-producing tumors.

URL de la
notice

<http://okina.univ-angers.fr/publications/ua7143> [24]

DOI

10.1007/s00262-001-0248-0 [25]

Lien vers le
document

<http://dx.doi.org/10.1007/s00262-001-0248-0> [25]

Autre titre

Cancer Immunol. Immunother.

Identifiant

(ID) PubMed 11862419 [26]

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=10940](http://okina.univ-angers.fr/publications?f[author]=10940)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=10948](http://okina.univ-angers.fr/publications?f[author]=10948)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=10949](http://okina.univ-angers.fr/publications?f[author]=10949)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=10950](http://okina.univ-angers.fr/publications?f[author]=10950)
- [5] <http://okina.univ-angers.fr/m.wertheimer/publications>
- [6] [http://okina.univ-angers.fr/publications?f\[author\]=10943](http://okina.univ-angers.fr/publications?f[author]=10943)
- [7] [http://okina.univ-angers.fr/publications?f\[author\]=10951](http://okina.univ-angers.fr/publications?f[author]=10951)
- [8] [http://okina.univ-angers.fr/publications?f\[author\]=5432](http://okina.univ-angers.fr/publications?f[author]=5432)
- [9] [http://okina.univ-angers.fr/publications?f\[author\]=10952](http://okina.univ-angers.fr/publications?f[author]=10952)
- [10] [http://okina.univ-angers.fr/publications?f\[author\]=10953](http://okina.univ-angers.fr/publications?f[author]=10953)
- [11] [http://okina.univ-angers.fr/publications?f\[author\]=10947](http://okina.univ-angers.fr/publications?f[author]=10947)
- [12] [http://okina.univ-angers.fr/publications?f\[author\]=10945](http://okina.univ-angers.fr/publications?f[author]=10945)
- [13] [http://okina.univ-angers.fr/publications?f\[keyword\]=8588](http://okina.univ-angers.fr/publications?f[keyword]=8588)
- [14] [http://okina.univ-angers.fr/publications?f\[keyword\]=11055](http://okina.univ-angers.fr/publications?f[keyword]=11055)
- [15] [http://okina.univ-angers.fr/publications?f\[keyword\]=11056](http://okina.univ-angers.fr/publications?f[keyword]=11056)
- [16] [http://okina.univ-angers.fr/publications?f\[keyword\]=11057](http://okina.univ-angers.fr/publications?f[keyword]=11057)
- [17] [http://okina.univ-angers.fr/publications?f\[keyword\]=10278](http://okina.univ-angers.fr/publications?f[keyword]=10278)

- [18] [http://okina.univ-angers.fr/publications?f\[keyword\]=11058](http://okina.univ-angers.fr/publications?f[keyword]=11058)
- [19] [http://okina.univ-angers.fr/publications?f\[keyword\]=11059](http://okina.univ-angers.fr/publications?f[keyword]=11059)
- [20] [http://okina.univ-angers.fr/publications?f\[keyword\]=11061](http://okina.univ-angers.fr/publications?f[keyword]=11061)
- [21] [http://okina.univ-angers.fr/publications?f\[keyword\]=11060](http://okina.univ-angers.fr/publications?f[keyword]=11060)
- [22] [http://okina.univ-angers.fr/publications?f\[keyword\]=991](http://okina.univ-angers.fr/publications?f[keyword]=991)
- [23] [http://okina.univ-angers.fr/publications?f\[keyword\]=8594](http://okina.univ-angers.fr/publications?f[keyword]=8594)
- [24] <http://okina.univ-angers.fr/publications/ua7143>
- [25] <http://dx.doi.org/10.1007/s00262-001-0248-0>
- [26] <http://www.ncbi.nlm.nih.gov/pubmed/11862419?dopt=Abstract>

Publié sur *Okina* (<http://okina.univ-angers.fr>)