

Response to Article “Serum Levels of Galectin-9 are Increased in Cervical Cancer Patients and are Higher in Advanced Clinical Stages” [Response to Letter]

Tania Reyes-Vallejo¹, Ileana Conde-Rodríguez², Jocelyn Serna-Villalobos², Ivonne Ramírez-Díaz², Gabriela Pérez-Villalobos³, Guadalupe Delgado-López⁴, Víctor Javier Vázquez-Zamora⁵, Claudia Teresita Gutierrez-Quiroz⁵, Laura Ávila-Jiménez⁶, Alejandro García-Carrancá⁷, Liliana Martínez-Acosta⁸, Gerardo Santos-López⁴, Julio Reyes-Leyva⁹, Verónica Vallejo-Ruiz⁴

¹Departamento de Ciencias Químico-Biológicas, Universidad de las Américas Puebla, Puebla, México; ²Posgrado en Ciencias Químicas, Benemérita Universidad Autónoma de Puebla, Puebla, México; ³Facultad de Medicina, Benemérita Universidad Autónoma de Puebla, Puebla, México; ⁴Centro de Investigación Biomédica de Oriente, Instituto Mexicano del Seguro Social, Atlixco, Puebla, México; ⁵Hospital de Especialidades, General Manuel Ávila Camacho, Instituto Mexicano del Seguro Social, Puebla, México; ⁶Órgano de Operación Administrativa Desconcentrada Estatal Morelos, Instituto Mexicano del Seguro Social, Cuernavaca, Morelos, México; ⁷Universidad Nacional Autónoma de México Instituto Nacional de Cancerología, Ciudad de México, México; ⁸Hospital General de Zona No. 5, Instituto Mexicano del Seguro Social, Metepec, Puebla, México; ⁹Facultad de Ciencias Químicas, Benemérita Universidad Autónoma de Puebla, Puebla, México

Correspondence: Verónica Vallejo-Ruiz, Km 4.5 Carretera Federal Atlixco-Metepec, Atlixco, Puebla, Z.C. 74360, Mexico, Tel +52 24 44 440 122, Email veronica_vallejo@yahoo.com; veronica.vallejor@imss.gob.mx

Dear editor

We appreciate the comments of Panjaitan et al regarding our recent publication. They state the importance of detecting other galectins, in respect that we have considered to evaluate serum galectin-9 as a potential biomarker for cervical cancer because this protein plays an important role as an immunomodulator, so it could be related with the immune status of the patients and the progression of the disease.¹ The study of other serum galectins such as galectin-1, galectin-3 and galectin-8 in cervical cancer would certainly generate important information and complement the results obtained in this study.

With respect to the studies focused on galectin-9 expression tissue, Punt et al reported that presence of galectin-9 showed a trend toward improved survival and Beyer et al reported that high expression of galectin-9 was correlated with better prognosis, so these studies are not contradictory.^{2,3} But, the results of serum concentration of galectin-9 obtained in our study showed that serum concentration increases in advanced FIGO stages and it is not related with the level of expression in the tumor tissue; these results suggest that galectin-9 could be playing different roles in the tumor cells and in the serum.

Considering that human papillomavirus infection is the etiological agent of cervical cancer, some studies support that this infection could be modulating galectin-9 expression. Chen et al evaluated the expression level of galectin-9 in monocytes of cervical cancer patients, HPV-positive and HPV negative, and they reported higher levels of galectin-9 in the monocytes of patients with HPV-positive cervical cancer.⁴ In our study it was not possible to evaluate the expression level of galectin-9 in cervical cancer tissue negative to the human papillomavirus, because all the analyzed samples were HPV positive. Previous results in Mexican women have reported the HPV prevalence in 100% of cervical cancer samples.⁵ Further studies are required to identify the mechanisms that regulate the expression of galectin-9.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Reyes-Vallejo T, Conde-Rodríguez I, Serna-Villalobos J., et al. Serum levels of Galectin-9 are increased in cervical cancer patients and are higher in advanced clinical stages. *Onco Targets Ther.* 2022;15:1211–1220. doi:10.2147/OTT.S378933
2. Punt S, Thijssen VL, Vrolijk J, et al. Galectin-1, -3 and -9 Expression and clinical significance in squamous cervical cancer. *PLoS One.* 2015;10(6): e0129119. PMID: 26066796; PMCID: PMC4467041. doi:10.1371/journal.pone.0129119
3. Beyer S, Wehrmann M, Meister S, et al. Galectin-8 and -9 as prognostic factors for cervical cancer. *Arch Gynecol Obstet.* 2022;306(4):1211–1220. doi:10.1007/s00404-022-06449-9
4. Chen Z, Dong D, Zhu Y, et al. The role of Tim-3/Galectin-9 pathway in T-cell function and prognosis of patients with human papilloma virus-associated cervical carcinoma. *FASEB J.* 2021;35(3):e21401. doi:10.1096/fj.202000528RR
5. Aguilar-Lemarrooy A, Vallejo-Ruiz V, Cortés-Gutiérrez EI, et al. Human papillomavirus infections in Mexican women with normal cytology, precancerous lesions, and cervical cancer: type-specific prevalence and HPV coinfections. *J Med Virol.* 2015;87(5):871–884. doi:10.1002/jmv.24099

Dove Medical Press encourages responsible, free and frank academic debate. The content of the OncoTargets and Therapy 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the OncoTargets and Therapy editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

OncoTargets and Therapy

Dovepress

Publish your work in this journal

OncoTargets and Therapy is an international, peer-reviewed, open access journal focusing on the pathological basis of all cancers, potential targets for therapy and treatment protocols employed to improve the management of cancer patients. The journal also focuses on the impact of management programs and new therapeutic agents and protocols on patient perspectives such as quality of life, adherence and satisfaction. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/oncotargets-and-therapy-journal>

<https://doi.org/10.2147/OTT.S399119>