

## Datopotamab deruxtecan: hope against metastatic triple-negative breast cancer

## Datopotamab deruxtecan la esperanza frente al cáncer de mama metastásico triple negativo

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### Abstract

Breast cancer is the most common malignant neoplasm among women and one of the leading causes of cancer-related mortality worldwide. Among its molecular subtypes, triple-negative breast cancer is characterized by the absence of hormone receptors and HER2 expression, which limits therapeutic options and is associated with an unfavorable prognosis. In this context, advances in targeted therapies have enabled the development of new drugs with specific molecular targets. The objective of this work was to present datopotamab deruxtecan as an emerging and promising therapeutic option for the treatment of metastatic triple-negative breast cancer, highlighting its mechanism of action and recent clinical outcomes. A review of the scientific literature and regulatory reports was conducted, including clinical trials and official communications, with emphasis on studies published between 2023 and 2025. The results showed that datopotamab deruxtecan, an antibody–drug conjugate targeting TROP-2, demonstrated superiority over conventional chemotherapy in terms of progression-free survival and tolerability, particularly in patients with previously treated advanced disease. In conclusion, datopotamab deruxtecan represents a relevant therapeutic advance in a clinical setting with limited options, offering a targeted strategy with the potential to improve disease control and quality of life in patients with triple-negative breast cancer.

**Keywords:** educational gamification; medical education; perceived effectiveness; meaningful learning; gamified challenges

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### Resumen

El cáncer de mama constituye la neoplasia maligna más frecuente en mujeres y una de las principales causas de mortalidad oncológica a nivel mundial. Dentro de sus subtipos moleculares, el cáncer de mama triple negativo se caracteriza por la ausencia de receptores hormonales y HER2, lo que limita las opciones terapéuticas y se asocia con un pronóstico desfavorable. En este contexto, los avances en terapias dirigidas han permitido el desarrollo de nuevos fármacos con blancos moleculares específicos. El objetivo de este trabajo fue presentar a datopotamab deruxtecan como una opción terapéutica emergente y prometedora para el tratamiento del cáncer de mama metastásico triple negativo, destacando su mecanismo de acción y resultados clínicos recientes. Se realizó una revisión de la literatura científica y de reportes regulatorios, incluyendo ensayos clínicos y comunicados oficiales, con énfasis en estudios publicados entre 2023 y 2025. Los resultados mostraron que datopotamab deruxtecan, un conjugado anticuerpo-fármaco dirigido contra TROP-2, demostró superioridad frente a la quimioterapia convencional en términos de supervivencia libre de progresión y tolerabilidad, particularmente en pacientes con enfermedad avanzada previamente tratada. En conclusión, datopotamab deruxtecan representa un avance terapéutico relevante en un escenario clínico con opciones limitadas, ofreciendo una estrategia dirigida con potencial para mejorar el control de la enfermedad y la calidad de vida de las pacientes con cáncer de mama triple negativo.

**Palabras clave:** datopotamab deruxtecan; cáncer de mama triple negativo; TROP-2; terapia dirigida; conjugado anticuerpo-fármaco



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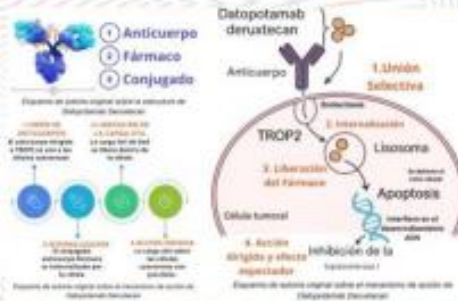
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### INTRODUCTION

Breast cancer is the most common cancer in women and the second leading cause of cancer-related death. It is classified into four molecular subtypes: basal, luminal, HER2, and triple-negative. The latter lacks hormonal receptors and HER2, affects younger women more frequently, and has a poorer prognosis. Although treatments were previously focused on tumors with receptors, advances in monoclonal antibodies and new targets such as TROP-2 have expanded therapeutic options. In January 2023, the FDA approved Dato-DXd for metastatic or unresectable HER2-negative breast cancer resistant to treatment, representing a significant therapeutic advance.



### MECHANISM OF ACTION



### RESULTS

According to clinical studies, Dato-DXd demonstrated superiority over conventional chemotherapy in advanced breast cancer, particularly in the HR+/HER2-negative and triple-negative subtypes. Due to its efficacy and greater tolerability, it is used as a superior alternative to chemotherapy in previously treated patients.

DATOPOTAMAB DERUXTECAN	QUIMIOTERAPIA CONVENCIONAL
Supervivencia Libre de Progresión 6.8 meses	Supervivencia Libre de Progresión 4.8 meses
Tasa de respuesta objetiva 38%	Tasa de respuesta objetiva 27%
Tasa de respuesta parcial 55.9%	Tasa de respuesta parcial 32.8%
Supervivencia Global 18.6 meses	Supervivencia Global 15.3 meses
Eventos adversos de grado 3/4 21%	Eventos adversos de grado 3/4 49%

Nota: estadísticas de autoría original de Documentación Científica desde páginas correspondientes

### OBJETIVE

To present Datopotamab deruxtecan as an emerging and promising treatment option for triple-negative breast cancer, given the scarcity of effective therapeutic alternatives, also highlighting its advantages, particularly its selective chemotherapeutic action against affected cells.

### METHODOLOGY



### CONCLUSIONS

Triple-negative breast cancer continues to be a major clinical challenge due to its aggressiveness and the limited availability of targeted treatments. In this context, datopotamab deruxtecan emerges as an innovative therapeutic option thanks to its mechanism directed against TROP2, allowing selective action on tumor cells with lower systemic toxicity. Preliminary results support its potential to improve disease control, representing a real hope for patients with limited therapeutic options.

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