Anti-Melphalan-modified DNA [Amp4/42]

Catalogue number: 151465
Sub-type: Primary antibody
Images:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: Anti-Melphalan-modified DNA [Amp4/42]

Alternate name:

Class: Monoclonal
Conjugate: Unconjugated
Description: Antibody Amp4/42 recognises the ring-opened structure that forms when DNA is alkylated by the anti-cancer drug melphalan and is then exposed to alkali
Purpose:
Parental cell:
Organism:
Tissue:
Model:
Gender:
Isotype: IgG2b
Reactivity: Human ; Mouse
Selectivity:
Host: Rat
Immunogen:
Immunogen UNIPROT ID:
Sequence:
Growth properties:
Production details:
Formulation:
Recommended controls: DNA/ melphalan alkylated DNA
Bacterial resistance:
Selectable markers:

Additional notes:

Target details

Target: Melphalan

Target alternate names:

Target background: The alkali causes guanine bases alkylated at the N7 position to undergo a so-called ring-opening reaction and Amp4/42 appears to recognise this structure, although recognition may be influenced by the neighbouring DNA sequence. The products of the ring-opening reaction are more resistant to depurination reactions than the original guanine adducts. This antibody was developed to improve detection of melphalan-DNA adducts through its ability to recognise the stabilised adduct. The Amp4/42 clone did not bind to alkali-treated control DNA or to DNA that had been alkylated with melphalan but not exposed to alkali. This antibody can be used for quantification of melphalan adducts in purified DNA by ELISA and for immunofluorescent detection of melphalan-DNA adducts in single cells.

Molecular weight:

Ic50:

Applications

Application: ELISA ; IF
Application notes:

Handling

Format: Liquid
Concentration: 1 mg/ml
Passage number:
Growth medium:
Temperature:
Atmosphere:
Volume:
Storage medium:
Storage buffer: PBS with 0.02% azide
Storage conditions: -15° C to -25° C
Shipping conditions: Shipping at 4° C

Related tools

Related tools: Anti-Melphalan-modified DNA [MP5/73]

References

References: Powell et al. 2015. Sci Rep. 5:7975. PMID: 25609656. ; 3D-DIP-Chip: a microarray-based method to measure genomic DNA damage. ; Kothandapani et al. 2012. Exp Cell Res. 318(16):1973-86. PMID: 22721696. ; Downregulation of SWI/SNF chromatin remodeling factor subunits modulates cisplatin cytotoxicity. ; Kothandapani et al. 2011. J Biol Chem. 286(16):14564-74. PMID: 21357694. ; Novel role of base excision repair in mediating cisplatin cytotoxicity. ; Meczes et al. 2005. Biochem Pharmacol. 70(12):1717-25. PMID: 16259963. ; Specific adducts recognised by a monoclonal antibody against cisplatin-modified DNA. ; Deverman et al. 2002. Cell. 111(1):51-62. PMID: 12372300. ; Bcl-xL deamidation is a critical switch in the regulation of the response to DNA damage. ; Veal et al. 2001. Clin Cancer Res. 7(8):2205-12. PMID: 11489793. ; Veal et al. 2001. Clin Cancer Res. 7(8):2205-12. PMID: 11489793. ; Influence of cellular factors and pharmacokinetics on the formation of platinum-DNA adducts in leukocytes of children receiving cisplatin therapy. ; Strobeck et al. 2000. Proc Natl Acad Sci U S A. 97(14):7748-53. PMID: 10884406. ; BRG-1 is required for RB-mediated cell cycle arrest. ; Ghazal-Aswad et al. 1999. Ann Oncol. 10(3):329-34. PMID: 10355578. ; Pharmacokinetically guided dose escalation of carboplatin in epithelial ovarian cancer: effect on drug-plasma AUC and peripheral blood drug-DNA adduct levels. ; Welters et al. 1999. Ann Oncol. 10(1):97-103. PMID: 10076728. ; The potential of plantinum-DNA adduct determination in ex vivo treated tumor fragments for the prediction of sensitivity to cisplatin chemotherapy. ; Peng et al. 1997. Br J Cancer. 76(11):1466-73. PMID: 9400943. ; Platinum-DNA adduct formation in leucocytes of children in relation to pharmacokinetics after cisplatin and carboplatin therapy. ; Cross et al. 1996. Int J Cancer. 66(3):404-8. PMID: 8621265. ; Effect of quercetin on the genotoxic potential of cisplatin. ; Evans et al. 1994. Cancer Res. 54(6):1596-603. PMID: 8137265. ; Differential sensitivity to the induction of apoptosis by cisplatin in proliferating and quiescent immature rat thymocytes is independent of the levels of drug accumulation and DNA adduct formation. ; Tilby et al. 1991. Cancer Res. 51(1):123-9. PMID: 1703029. ; Sensitive detection of DNA modifications induced by cisplatin and carboplatin in vitro and in vivo using a monoclonal antibody.