

# ANTICANCER RESEARCH

## International Journal of Cancer Research and Treatment

ISSN: 0250-7005

Volume 41, Number 5, May 2021

### Contents

#### Reviews

- Current Update on the Diagnosis, Management and Pathogenesis of Elastofibroma Dorsi. J. NISHIO, S. NAKAYAMA, K. NABESHIMA, T. YAMAMOTO (*Fukuoka, Japan*) ..... 2211

- Medical Thoracoscopy, Computed Tomography-guided Biopsy, and Ultrasound-guided Biopsy for Malignant Pleural Mesothelioma: A Systematic Review. A. SHIROSHITA, M. KUROSAKI, M. TAKESHITA, Y. KATAOKA (*Ichinomiya; Kamogawa; Amagasaki, Japan*) ..... 2217

- Obesity and Liver Cancer in Japan: A Comprehensive Review. H. NISHIKAWA, S. FUKUNISHI, A. ASAI, S. NISHIGUCHI, K. HIGUCHI (*Takatsuki; Nishinomiya; Osaka, Japan*) ..... 2227

#### Experimental Studies

- IL-39 Reduces Proliferation and Promotes Apoptosis of Bladder Cancer by Altering the Activity of Cyclin E and Fas. H. XIAO, H. ALISIC, B.T. REIMAN, Z. DENG, Z. ZHU, N.T. GIVENS, Q. BAI, A. TAIT, M.R. WAKEFIELD, Y. FANG (*Des Moines, IA; Columbia, MO, USA; Chenzhou, PR China*) ..... 2239

- Evaluation of the Cytotoxic Effects of the Novel Antineoplastic Agent 1,4,5-Oxathiazinane-4,4-dioxide on Triple Negative Breast Cancer Cells. M. JINIH, J.H. WANG, R.W. PFIRRMANN, D.P. O'LEARY, M.A. CORRIGAN, H.P. REDMOND (*Cork, Ireland; Lucerne, Switzerland*) ..... 2247

- Combined Targeting of AKT and mTOR Synergistically Inhibits Formation of Primary Colorectal Carcinoma Tumouroids *In Vitro*: A 3D Tumour Model for Pre-therapeutic Drug Screening. D. NÖRZ, C.S. MULLINS, D.J. SMIT, M. LINNEBACHER, G. HAGEL, A. MIRDOGAN, J. SIEKIERA, P. EHM, J.R. IZBICKI, A. BLOCK, O. THASTRUP, M. JÜCKER (*Hamburg; Rostock, Germany; Birkerød, Denmark*) ..... 2257

*Contents continued on the back cover*

Synergistic Effect of Bazedoxifene and PARP Inhibitor in the Treatment of Ovarian Cancer Regardless of BRCA Mutation. R. ZHANG, T. WANG, J. LIN ( <i>Wuhan, PR China; Baltimore, MD, USA</i> ) .....	2277
Structure-activity Relationship of Indomethacin Derivatives as IDO1 Inhibitors. T. OBATA, S. SHIRATANI, T. NADA, Y. KASAYA, M. ARISAWA, S. SHUTO, M. TANAKA ( <i>Nagoya; Sapporo; Osaka, Japan</i> ) .....	2287
Over-expression of PDE5 in Oral Squamous Cell Carcinoma – Effect of Sildenafil Citrate. T. IWASAKI, T. ONDA, H. HONDA, K. HAYASHI, T. SHIBAHARA, T. NOMURA, M. TAKANO ( <i>Chiba, Japan</i> ) .....	2297
Retinoids Decrease Soluble MICA Concentration by Inhibiting the Enzymatic Activity of ADAM9 and ADAM10. Y. OTOYAMA, J. ARAI, K. GOTO, H. NOZAWA, R. NAKAGAWA, R. MUROYAMA, I. SUGIURA, Y. NAKAJIMA, A. KAIWARA, M. TOJO, Y. ICHIKAWA, S. UOZUMI, Y. SHIMOZUMA, M. UCHIKOSHI, M. SAKAKI, N. KATO, H. YOSHIDA ( <i>Tokyo; Chiba, Japan; Strasbourg, France</i> ) .....	2307
Involvement of Galectin-1 Tumor Microenvironment in Radiosensitivity. Y.-F. CHEN, C.-C. WANG, C.-Y. HSU, E.-Y. HUANG ( <i>Kaohsiung; Taoyuan, Taiwan, ROC</i> ) .....	2321
Establishment of a Novel Temozolomide Resistant Subline of Glioblastoma Multiforme Cells and Comparative Transcriptome Analysis With Parental Cells. H.-A. HA, J.-S. YANG, F.-J. TSAI, C.-W. LI, Y.-D. CHENG, J. LI, M.-J. HOUR, Y.-J. CHIU ( <i>Taichung; Hsinchu; Taipei, Taiwan, ROC; Da Nang, Vietnam; Chongqing, PR China</i> ) .....	2333
Expression of Lysophosphatidylinositol Signaling-relevant Molecules in Colorectal Cancer. C. KITAMURA, H. SONODA, H. ANZAI, Y. NAGAI, S. ABE, Y. YOKOYAMA, H. ISHII, J. KISHIKAWA, S. EMOTO, K. MURONO, K. SASAKI, K. KAWAI, H. NOZAWA, S. ISHIHARA ( <i>Tokyo, Japan</i> ) .....	2349
Expression of Death Associated Proteins DAP1 and DAP3 in Human Pancreatic Cancer. L. SUI, L. YE, A.J. SANDERS, Y. YANG, C. HAO, R. HARGEST, W.G. JIANG ( <i>Cardiff, UK; Shandong; Beijing, PR China</i> ) .	2357
Comparative Evaluation of Cellular Uptake of Free and Liposomal Doxorubicin Following Short Term Exposure. G. ZALESKIS, S. GARBERYTE, B. PAVLIUKEVICIENE, J.A. KRASKO, M. SKAPAS, M. TALAIKIS, A. DARINSKAS, L. ZIBUTYTE, V. PASUKONIENE ( <i>Vilnius, Lithuania</i> ) .....	2363
Estrogen Receptor $\beta$ Is Involved in Acquired Resistance to EGFR-tyrosine Kinase Inhibitors in Lung Cancer. H. SUGIURA, Y. MIKI, E. IWABUCHI, R. SAITO, K. ONO, I. SATO, Y. OKADA, H. SASANO ( <i>Sendai; Natori, Japan</i> ) .....	2371
Modulation of Apoptosis and Epithelial-Mesenchymal Transition E-cadherin/TGF- $\beta$ /Snail/TWIST Pathways by a New Ciprofloxacin Chalcone in Breast Cancer Cells. R. ALAAELDIN, G.E.-D.A. ABUO-RAHMA, Q.-L. ZHAO, M. FATHY ( <i>Minia, Egypt; Toyama, Japan</i> ) .....	2383
PARP1 Is Overexpressed in Hematological Malignant Cell Lines: A Framework for Experimental Oncology. C.B. MACHADO, E.L. DA SILVA, B.M. DIAS NOGUEIRA, M.O. DE MORAES FILHO, R. CARVALHO MONTENEGRO, M.E. AMARAL DE MORAES, C.A. MOREIRA-NUNES ( <i>Fortaleza, Brazil</i> ) .....	2397
Fascin Regulates the Hippo Pathway and Is Important for Melanoma Development. B.-S. KANG, S.-C. LIM ( <i>Gwangju, Republic of Korea</i> ) .....	2403
miRNA-93 in Serum Extracellular Vesicles Before and After Low Dose Rate Prostate Brachytherapy. K. IINUMA, K. KAWAKAMI, K. MIZUTANI, Y. FUJITA, T. YAMAGUCHI, M. ITO, T. KUMANO, M. MATSUO, M. NAKANO, T. KOIE, M. ITO, T. KATO ( <i>Gifu; Tokyo, Japan</i> ) .....	2411
Prediction of Chemosensitivity in Multiple Primary Cancer Patients Using Machine Learning. X. ZHANG, M. JANG, Z. ZHENG, A. GAO, Z. LIN, K.-Y. KIM ( <i>Yanji, PR China; Seoul; Goyang, Republic of Korea</i> ) .....	2419

A TGF $\beta$ Signaling Inhibitor, SB431542, Inhibits Reovirus-mediated Lysis of Human Hepatocellular Carcinoma Cells in a TGF $\beta$ -independent Manner. I. ISHIGAMI, N. SHUWARI, T. KAMINADE, H. MIZUGUCHI, F. SAKURAI ( <i>Osaka, Japan</i> ) .....	2431
MiR-3663-3p Inhibits the Progression of Gastric Cancer Through the CCND1 Pathway. K. TAKAO, H. KONISHI, D. MATSUBARA, K. SHODA, T. ARITA, H. SHIMIZU, S. KOMATSU, A. SHIOZAKI, Y. YAMAMOTO, T. KUBOTA, H. FUJIWARA, K. OKAMOTO, E. OTSUJI ( <i>Kyoto, Japan</i> ) .....	2441
Contribution of Interleukin-10 Genotype to Triple Negative Breast Cancer Risk. K.-Y. CHEN, W.-C. CHIEN, J.-M. LIAO, C.-W. TSAI, W.-S. CHANG, C. SU, S.-W. HSU, H.-C. WANG, D.-T. BAU ( <i>Taichung; Taipei; Changhua, Taiwan, ROC</i> ) .....	2451
<b>Clinical Studies</b>	
Pretreatment MRI in Primary Rectal Cancer as a Predictor for Oncological Outcomes After Surgery for Local Recurrence. A.H. ELLIOT, B.N. OTHMAN, C. SUZUKI, L. BLOMQVIST, A. MARLING, H. JOHANSSON, B. GLIMELIUS, P.J. NILSSON, H. IVERSEN ( <i>Stockholm; Uppsala, Sweden</i> ) .....	2459
Adaptive Radiation Therapy for Intact Thymoma: An Illustrative Report. N. CHEVLI, R.E. BLAND, A.M. FARACH, R. PINO, T. MATHEWS, E.I. OKOYE, S. BLACKMON, E.B. BUTLER, B.S. TEH ( <i>Galveston; Houston, TX; Monroe, LA; Alexandria, VA; Rochester, MN, USA</i> ) .....	2467
What Is the Clinical Impact of Sending Tissue for Histopathology During Surgery for Known, Diffuse Metastatic Disease to Bone? C.A. GUSHO, A.T. BLANK ( <i>Chicago, IL, USA</i> ) .....	2473
Diagnostic Role of PET/CT Tracers in the Detection and Localization of Tumours Responsible for Ectopic Cushing's Syndrome. L. ZISSER, O.C. KULTERER, B. ITARIU, B. FUEGER, M. WEBER, P. MAZAL, C. VRAKA, V. PICHLER, A. KAUTZKY-WILLER, M. HACKER, G. KARANIKAS, S. RASUL ( <i>Vienna, Austria</i> ) .....	2477
Cutaneous Lesion of the Nose as Initial Presentation of Esophageal Adenocarcinoma. A. HAAG, D. HUFFMAN, C. PETERSON, K. SHANKAR, L. ALNIMER, Y. SAMHOURI, L. GREENBERG ( <i>Pittsburgh, PA; Southfield, MI, USA</i> ) .....	2485
Sleep Disorders in Patients With Breast Cancer Prior to a Course of Radiotherapy – Prevalence and Risk Factors. D. RADES, C.A. NARVAEZ, L. DZIGGEL, S. TVILSTED, T.W. KJAER ( <i>Lübeck, Germany; Koege; Roskilde, Denmark</i> ) .....	2489
Karnofsky Performance Score – An Independent Prognostic Factor of Survival After Palliative Irradiation for Sino-nasal Cancer. D. RADES, C. STAACKMANN, S.E. SCHILD ( <i>Lübeck, Germany; Scottsdale, AZ, USA</i> ) .....	2495
PD-L1 Expression Status Predicting Survival in Pulmonary Pleomorphic Carcinoma. K. HISAKANE, M. SEIKE, T. SUGANO, K. MATSUDA, S. KUNUGI, S. NAKAMICHI, M. MATSUMOTO, A. MIYANAGA, R. NORO, Y. MINEGISHI, K. KUBOTA, A. GEMMA ( <i>Tokyo, Japan</i> ) .....	2501
Relevance of CYP3A5 Expression on the Clinical Outcome of Patients With Renal Cell Carcinoma. J. MATSUMOTO, Y. KOTERA, S. WATARI, K. TAKEUCHI, H. UEKI, T. KOYAMA, K. WADA, M. FUJIYOSHI, Y. NASU, N. ARIYOSHI ( <i>Okayama, Japan</i> ) .....	2511
Comparison of Physician-recorded Toxicities and Patient-reported Outcomes of Five Different Radiotherapy Methods for Prostate Cancer. M. ITO, K. SASAMURA, Y. TAKASE, T. KOTSUMA, Y. OSHIMA, Y. MINAMI, J. SUZUKI, E. TANAKA, W. OHASHI, M. OGUCHI, T. OKUDA, K. SUZUKI, Y. YOSHIOKA ( <i>Nagakute; Toyota; Tokyo; Nagoya; Osaka; Kaizuka, Japan</i> ) .....	2523

Impact of Inferior Mesenteric Artery Lymph Node Metastasis on the Prognosis of Left-sided Colorectal Cancer. K. TAKABATAKE, T. ARITA, M. NAKANISHI, Y. KURIU, Y. MURAYAMA, H. SHIMIZU, M. KUDOU, J. KIUCHI, T. KOSUGA, H. KONISHI, R. MORIMURA, A. SHIOZAKI, H. IKOMA, T. KUBOTA, H. FUJIWARA, K. OKAMOTO, E. OTSUJI ( <i>Kyoto, Japan</i> ) .....	2533
Cytoplasmic-only Expression of Maspin Predicts Unfavorable Prognosis in Patients With Pancreatic Ductal Adenocarcinoma. E. UCHINAKA, T. SAKABE, T. HANAKI, N. TOKUYASU, T. SAKAMOTO, S. HONJO, Y. FUJIWARA, Y. UMEKITA ( <i>Yonago, Japan</i> ) .....	2543
Regorafenib-to-trifluridine/tipiracil Versus the Reverse Sequence for Refractory Metastatic Colorectal Cancer Patients: A Multicenter Retrospective Real-life Experience. C. SIGNORELLI, D. GEMMA, R. GRANDE, S. DE MARCO, R. SALTARELLI, M.G. MORANDI, G.P. SPINELLI, F. ZORATTO, I. SPERDUTI, M.G. CHILLELLI, A. CERIBELLI, E.M. RUGGERI ( <i>Viterbo; Sora; Frosinone; Rome; Rieti; Aprilia; Latina, Italy</i> ) .....	2553
Prognosis of Patients With Interstitial Lung Disease Induced by Different Pharmacological Types of Anticancer Drugs. K. IWASHITA, T. MIZUNO, S. KUMAZAWA, K. IMAIZUMI, S. YAMADA ( <i>Toyoake, Japan</i> ) .....	2563
Tolerability of Molecular-targeted Agents for Hepatocellular Carcinoma Treatment in Haemophiliacs. T. YAMAMOTO, N. IMAI, K. YAMAMOTO, T. ITO, Y. ISHIZU, T. HONDA, S. OKAMOTO, T. KANEMATSU, N. SUZUKI, T. MATSUSHITA, M. ISHIGAMI, M. FUJISHIRO ( <i>Nagoya, Japan</i> ) .....	2569
Effective Control of Brain Metastases Irrespective of Distance from Isocenter in Single-isocenter Multitarget Stereotactic Radiosurgery. K. AOKI, Y. NAGATANI, K. NOMA, T. TSUGAWA, N. KONO, Y. KIDA, N. HARADA, Y. TANOUE, Y. WATANABE ( <i>Otsu, Japan</i> ) .....	2575
Brainstem Infiltration Predicts Survival in Patients With High-grade Gliomas Treated With Chemoradiotherapy. S. ANAMI, J. FUKAI, M. HAMA, A. AWAYA, T. INAGAKI, T. CHIBA, Y. NODA, Y. KANEMURA, N. NAKAO, T. SONOMURA ( <i>Wakayama; Osaka, Japan</i> ) .....	2583
Switching from Intravenous to Oral Tacrolimus Reduces its Blood Concentration in Paediatric Cancer Patients. H. UJIIE, S. NIHEI, N. NISHIYA, S. GOTO, Y. ASAKURA, S. MIURA, D. HIRAI, M. ENDO, T. OYAKE, S. ITO, T. CHIBA, K. KUDO ( <i>Shiwa; Sapporo, Japan</i> ) .....	2591
Comparison of Chemotherapeutic Regimens Frequently Used in Metastatic Non-squamous NSCLC Treatment. D. KREJCI, P. OPALKA, J. KREJCI, M. ZEMANOVA, P. ZEMANOVA, J. KULTAN, O. FISCHER, J. SKRICKOVA, M. BRATOVA, M. CERNOVSKA, M. HRNCIARIK, H. COUPKOVA, K. HURDALKOVA, M. BARINOVA, L. KOUBKOVA, D. DOLEZAL, M. SAFANDA, M. PESEK, M. SVATON ( <i>Prague; Olomouc; Brno; Hradec Kralove; Ústí nad Labem; Pilsen, Czech Republic</i> ) .....	2597
Elevated Postoperative Levels of Serum C-reactive Protein Are Associated With Shorter Long-term Survival After Resection of Colorectal Liver Metastases, Regardless of the Occurrence of Infectious Complications. M. SHIBUTANI, K. KIMURA, S. KASHIWAGI, E. WANG, Y. OKAZAKI, K. MAEDA, K. HIRAKAWA, M. OHIRA ( <i>Osaka, Japan</i> ) .....	2605
Laparoscopic Surgery Is Acceptable for Elderly Patients With Colorectal Cancer: A Propensity Score-matched Study. M. TAKAHASHI, K. SAKAMOTO, T. IRIE, S. KAWANO, K. SUGIMOTO, Y. KOJIMA, S. NOJIRI, A. OKUZAWA, Y. TOMIKI ( <i>Tokyo, Japan</i> ) .....	2611
Potential Benefits of Minimally Invasive Laparoscopy in Reducing Local Recurrence After Surgery for Low Rectal Cancer. M. NUMATA, H. TAMAGAWA, K. KAZAMA, Y. ATSUMI, K. IGUCHI, S. SAWAZAKI, T. AOYAMA, S. SATO, N. SUGANO, T. GODAI, A. HIGUCHI, Y. SAIGUSA, H. SAEKI, T. YAMADA, T. OSHIMA, M. SHIOZAWA, N. YUKAWA, Y. RINO ( <i>Yokohama; Fujisawa, Japan</i> ) .....	2617
Yttrium-90 Radioembolization for Hepatocellular Carcinoma: Virtual Tumor Absorbed Dose as a Predictor of Complete Response. H.-C. KIM, J.W. CHOI, M. LEE, Y.J. KIM, J.C. PAENG, J.W. CHUNG ( <i>Seoul, Republic of Korea</i> ) .....	2625

Heart Rate Variability as a Non-invasive Objective Parameter for Predicting the Occurrence of Chemotherapy-induced Peripheral Neuropathy in Patients With Gastrointestinal Cancer. A. JANG, Y.M. SEOL ( <i>Ulsan; Busan, Republic of Korea</i> ) .....	2637
Outcome of Surgical Resection and Chemotherapy Versus Chemotherapy Alone for the Treatment of Isolated Primary Adrenal Lymphoma: A Retrospective Cohort Study of 16 Consecutive Patients. G. ILLUMINATI, P. NARDI, C. FRATINI, R. PASQUA, C. GIORDANO, M. GIROLAMI, F. CARBONI ( <i>Rome, Italy</i> ) .....	2647
ERCC1 Is a Predictive Biomarker for Non-small Cell Lung Cancer But Is Antibody-dependent. T. OKIMOTO, Y. TSUBATA, R. TANINO, M. NAKAO, T. HOTTA, M. HAMAGUCHI, S. HAMAGUCHI, A. ARAKI, T. ISOBE ( <i>Izumo, Japan</i> ) .....	2653
Prognostic Significance of <i>EGFR</i> Gene Mutation in Patients With EGFR Mutated Non-small Cell Lung Cancer Who Received Best Supportive Care Alone. T. MASUDA, Y. WAKABAYASHI, T. NAKASHIMA, Y. NISHIMURA, K. SHIMOJI, K. YAMAGUCHI, S. SAKAMOTO, Y. HORIMASU, S. MIYAMOTO, T. SENOO, H. IWAMOTO, S. OHSHIMO, K. FUJITAKA, H. HAMADA, N. HATTORI ( <i>Hiroshima; Higashihiroshima; Kure, Japan</i> ) .....	2661
Clinicopathological Features of Growth Hormone-producing Pituitary Adenomas and Correlation With Preoperative Laboratory Findings. I.F. BURCEA, V.N. NĂSTASE, A.M. CÎMPEAN, A.R. CEAUŞU, I. BACIU, C. CĂPĂȚINĂ, R. DUSCEAC, S. GĂLOIU, D. NICULESCU, Ș. RADIAN, R. TRIFĂNESCU, A. DUMITRAŞCU, L.C. COCOŞILĂ, M. RAICA, C. POIANĂ ( <i>Bucharest; Timisoara, Romania</i> ) .....	2669
Postoperative Survival in Colitis-associated Colorectal Cancer With Ulcerative Colitis in Japan: A Multicenter Analysis. A. SUGITA, H. IKEUCHI, Y. FUNAYAMA, K. FUTAMI, T. IIAI, M. ITABASHI, Y. SUZUKI ( <i>Yokohama; Nishinomiya; Sendai; Fukuoka; Niigata; Tokyo; Sakura, Japan</i> ) .....	2681
Advanced Stages and Increased Need for Adjuvant Treatments in Breast Cancer Patients: The Effect of the One-year COVID-19 Pandemic. G. VANNI, M. PELLICCIARO, M. MATERAZZO, D. PEDINI, I. PORTARENA, C. BUONOMO, T. PERRETTA, S. RIZZA, C.A. PISTOLESE, O.C. BUONOMO ( <i>Rome, Italy</i> ) .....	2689
Clinical Outcomes Among Major Breast Cancer Subtypes After Neoadjuvant Chemotherapy: Impact on Breast Cancer Recurrence and Survival. P. ORSARIA, A. GRASSO, E. IPPOLITO, F. PANTANO, M. SAMMARRA, C. ALTOMARE, B. CAGLI, F. COSTA, G. PERRONE, G. SOPONARU, L. CAGGIATI, G. VANNI, O.C. BUONOMO, V. ALTOMARE ( <i>Rome, Italy</i> ) .....	2697
Alpha-fetoprotein for Gastric Cancer Staging: An Essential or Redundant Tumor Marker? C.-Y. TSAI, K.-H. LIU, C.-T. CHIU, S.-W. HSUEH, C.-Y. HUNG, J.-T. HSU, N.-M. TSANG, Y.-S. HUNG, W.-C. CHOU ( <i>Taoyuan; Keelung; Taipei, Taiwan, ROC</i> ) .....	2711
Dedifferentiated Mesonephric-like Adenocarcinoma of the Uterine Corpus. S. CHOI, K. NA, S.-W. KIM, H.-S. KIM ( <i>Seoul, Republic of Korea</i> ) .....	2719
Hepatic Inflammatory Pseudotumor Mimicking Malignant Tumor With Rare Onset of Intra-abdominal Hemorrhage. K. YAMAMURA, T. BEPPU, E. ODA, N. SATO, H. YUKI, T. MOTOHARA, H. MIYAMOTO, S. MIYAMURA, K. ONISHI, Y. KOMOHARA, S. AKAHOSHI ( <i>Kumamoto, Japan</i> ) .....	2727
Errata .....	2733