

## 2017年度

### 第59回歯科基礎医学学会学術大会

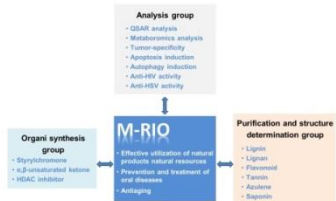
9月18日(月)松本歯科大学でおこなわれた学術会議(中村浩彰大会長、宇田川信之準備委員長)において、M-RIOの設立と主要研究テーマに関する発表を行った。「多くの抗癌剤は、TS値は高いものの、増殖因子存在下で増殖している口腔ケラチノサイトに対して高い傷害性を示した。これに対して、ステリルクロモン誘導体は、高いTS値と弱い副作用を示した。クマザサ葉アルカリ抽出液が、骨形成促進効果を与えた。マスティックの抗菌活性は、*n*-hexaneによる洗浄を取り入れることにより、比活性が上昇した。口腔疾患治療薬の開発においては、薬効と同時に口腔組織に対する傷害性も同時に検討すること、そして、生薬成分のモチーフに種々の官能基を導入して、QSAR解析を利用して、その効果を検証してゆくプロセスが重要であると思われる。」

明海大学歯科医学総合研究所(M-RIO)の設立 一有害作用の少ない口腔疾患治療薬の開発をめざして  
Meikai University Research Institute of Odontology (M-RIO) searches for anti-oral disease agents with lower adverse effects

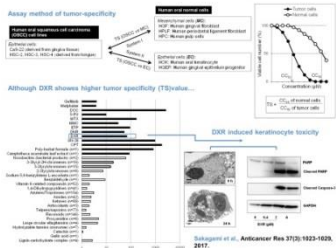
- 坂上 宏<sup>1)</sup>、友村 美根子<sup>1,2,3)</sup>、増田 宣子<sup>1,4)</sup> Hiroshi Sakagami<sup>1)</sup>, Mineko Tomomura<sup>1-3)</sup> and Yoshiko Masuda<sup>1-4)</sup>
- <sup>1)</sup>明海大 歯科医学総合研究所(M-RIO)
  - <sup>2)</sup>明海大 総合教育センター
  - <sup>3)</sup>明海大 歯 生化学
  - <sup>4)</sup>明海大 歯 保存治療
  - <sup>1)</sup>Meikai Research Institute of Odontology (M-RIO)
  - <sup>2)</sup>Integrated Education Center, Meikai University
  - <sup>3)</sup>Division of Biochemistry, Meikai University School of Dentistry
  - <sup>4)</sup>Division of Endodontics and Operative Dentistry, Meikai University School of Dentistry

#### Background / Aim

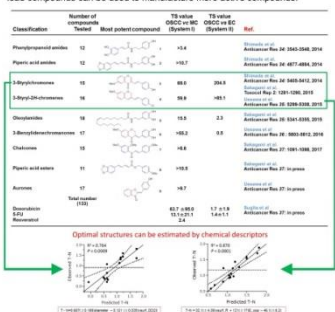
We have established Meikai University Research Institute of Odontology (M-RIO) on 2017 April, taking over the achievement of MPL (Meikai Pharmaco-Medical Laboratory) (1999-2017 March), to search for anti-oral disease substances from natural resources and modify them to manufacture more active and less toxic products. Most of previous *in vitro* studies have not used chemotherapeutic indexes (i.e. safety margin) to evaluate the pharmacological activity, providing very few information of adverse effects. To overcome this problem, we have explored the evaluation methods based on the chemotherapeutic indexes. Using these methods, We found several natural products and chemically-modified compounds are potential candidates for treatment of oral diseases.



#### Project I : Search for new type of anticancer drugs with high tumor-specificity and less keratinocyte toxicity

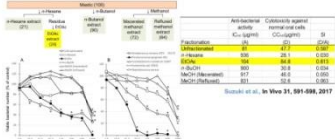


We synthesized 3-styrylchromones [3] and 3-styryl-2H-chromenes [4] that showed comparable TS value and much less keratinocyte cytotoxicity. These lead compounds can be used to manufacture more active compounds.

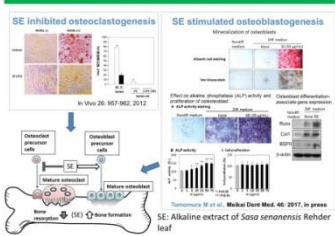


#### Project II : How to extract more potent and less cytotoxic antibacterial substances

Antibacterial activity of mastic was enhanced by prewashing with *n*-hexane and ethyl acetate extraction.



#### Project III : Search for natural substances that stimulate bone formation



#### Project IV : Strategy for living in symbiosis with "Shojo"

- Importance of international communication capability series
1. Language skill becomes strong weapon—Sakagami H, Shang H and Oishi R: New Food Industry 59 (7): 81-94, 2016
  2. How to acquire the outward-oriented attitude : Oishi R and Sakagami H: New Food Industry 58(8): 72-79, 2016
  3. How to improve the Japan-China relation: Sakagami H, Qing C, Qiujuan D, Oishi R and Kanzaki T: New Food Industry 58(11): 59-74, 2016
  4. Difference in the palatability of Chinese cuisine between Japan- and China: Sakagami H, Xiao L, Qiujuan D, Oishi R and Kanzaki T: New Food Industry 59(9): 71-93, 2017
  5. How can we not be left behind in the times?: Sakagami H, Xiao L, Qiujuan D, Oishi R, Kanzaki T and Tsuchida Y: Submitted to New Food Industry



