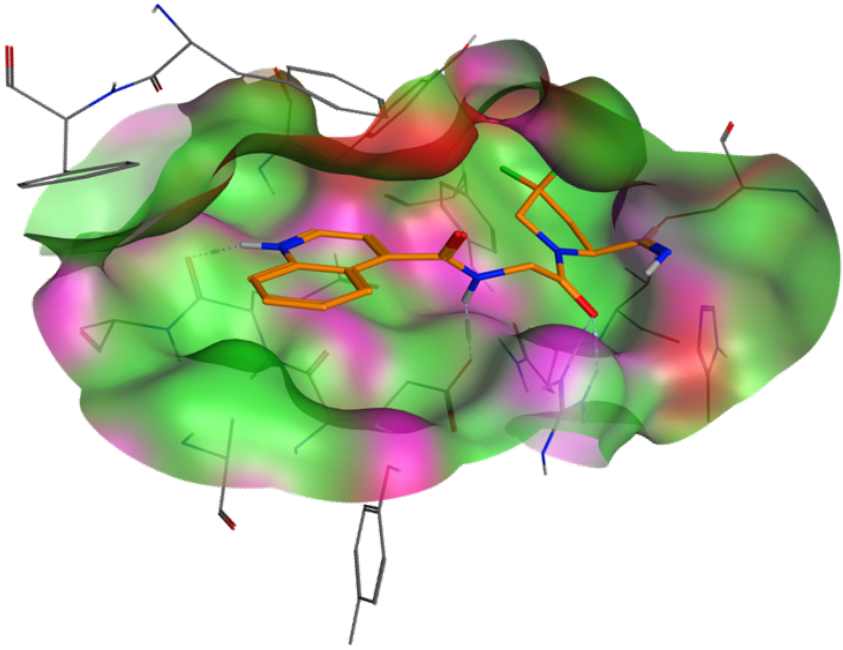
Technology offer:
Highly selective, orally bioavailable inhibitors of fibroblast activation protein (FAP) with development potential in fibrosis, oncology and pathologic tissue remodeling.

The University of Antwerp has discovered the most potent and selective small molecule FAP inhibitors reported to date. Compounds have low nanomolar affinities, are orally bioavailable and induce stable, long-term *in vivo* inhibition. Target audience for the technology: pharma/biotech partners that are looking for a development candidate in oncology and diseases characterized by fibrosis and tissue remodeling.



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Situation before

Fibroblast activation protein (FAP) was identified as a serine protease related to the clinically relevant target DPP4. FAP is known to be expressed abundantly on activated fibroblasts, and has been mainly studied in **oncology applications** focusing on the extracellular matrix. Lately, the enzyme's role in other **diseases involving tissue remodeling**, has received strong attention. Finally, research by, a.o., Genentech has recently linked FAP's enzymatic activity to **adverse metabolic events** occurring in Type II diabetes. So far, the **absence of selective inhibitors** has been a critical factor hampering advanced-stage development of FAP inhibitors, leading to concerns of aspecific toxicity during clinical evaluation. The lead compounds covered by the technology specifically address the shortcomings of earlier FAP inhibitors.

Technology

Lead compound UAMC-1110 is currently the most advanced candidate for further development. UAMC-1110 combines **low nanomolar FAP-affinity with high selectivity (SI. > 10^3)** towards all enzymes related to FAP and at least 60 other frequently occurring off-targets. The compound induces **long-term (24 hours), potent and stable FAP inihibition in rats after single, oral administration.** So far, **no potential organ toxicity** issues have been identified after administration to rodents. Furthermore, University of Antwerp has several strong **follow-up candidates** for UAMC-1110.

The technology is a joint achievement of the **Medicinal Chemistry** and **Medical Biochemistry** groups at the University of Antwerp. Both teams also offer their strong expertise in FAP-inhibitor discovery, FAP-biochemistry and biology to partners that are interested to initiate a development trajectory for UAMC-1110.

About the researchers - research group

The **Medicinal Chemistry** (contact: Prof. P. Van der Veken) and **Medical Biochemistry** (contact: Prof. Ingrid De Meester) groups have a longstanding joint collaboration on **inhibitor discovery** for FAP and related targets (DPP4, DPP2, DPP8, DPP9, and PREP). Both groups have leading international authority in this field. Next to preclinical inhibitor discovery, they also develop chemical tools and technologies that allow **activity-based detection and imaging of FAP** *in vivo* or *ex vivo*.

Finally, the Medical Biochemistry team has world-leading expertise in **fundamental biochemical and biological research** on FAP and related targets. Both laboratories belong to the Antwerp drug Discovery Network (www.addn.be) and to the research Consortium of Excellence Infla-Med (www.uantwerpen.be/infla-med).

Patent information

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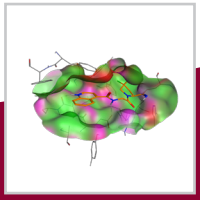

More information

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