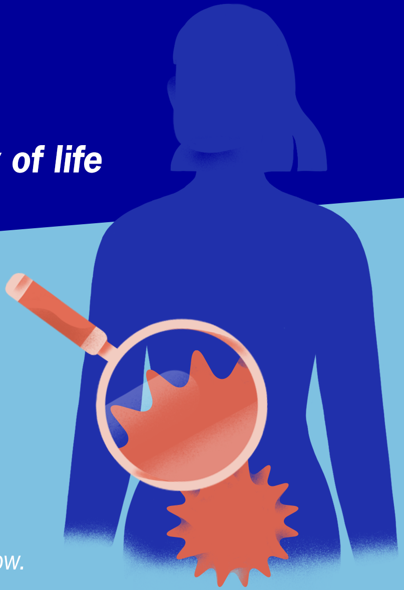
IN SEARCH OF AN EFFECTIVE ENDOMETRIOSIS TREATMENT

Endometriosis impacts the quality of life of millions of women worldwide



Endometriosis is an under-diagnosed condition in women of reproductive age. It is caused by the abnormal growth of endometrial tissue in locations outside of the uterine cavity, where it causes ectopic lesions, growth and debilitating pain. Historically, this indication has been neglected due to taboos around menstruation and menstrual pain. Consequently, both public and private research investments were subcritical, resulting in a great need for treatments now.

200 M+

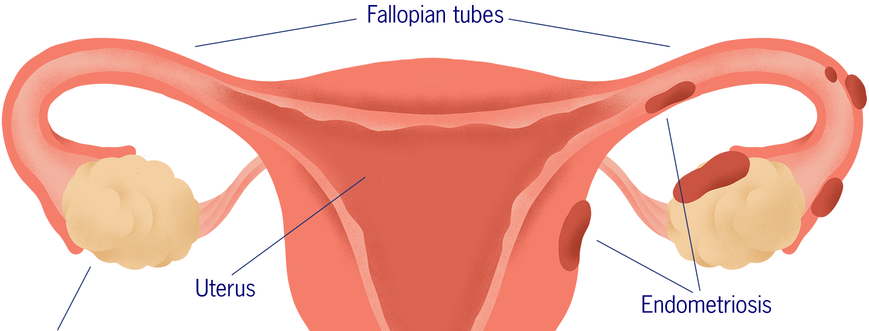
Women suffer from endometriosis worldwide

7.5 YEARS

Average time for diagnosis

€9.5K+

Costs per patient per year worldwide



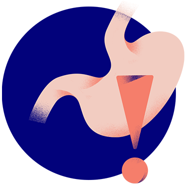
Ovary
Endometrium

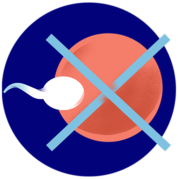
The real cause of endometriosis is unknown, but researchers are currently investigating:

- Retrograde menstruation
- Genetic factors
- Immune system involvement
- Malfunctioning hormone system
- Scars in the abdomen due to surgeries & the pro-inflammatory nature of endometriosis

Symptoms can be debilitating and greatly impact the quality of life, they include

Pain


Digestive Issues

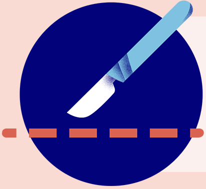

Infertility

THERE IS NO KNOWN CURE FOR ENDOMETRIOSIS.

The only available treatment options have big limitations...

Hormonal birth control:

- Limited efficacy
- Treatment resistance in subpopulations



Surgical removal of tissue growth or hysterectomy

- Abdominal scars
- Pelvic organ damage
- Subfertility

Pain medication

- Stomach ulcers
- Headaches
- High blood pressure

In the last 10 years, only 1 drug has been approved by the FDA against endometriosis pain...

Elagolix lowers the blood levels of the female sex hormones **estradiol** and **progesterone**. It comes with a number of challenges:

- **Costs of ~$850 per month**
- **Numerous side effects:**

- Hot flushes
- Mood changes
- Missed & irregular periods
- Headaches
- Joint pain
- Bone density loss

THERE IS A NEED FOR ALTERNATIVE NON-HORMONAL TREATMENT OPTIONS!

In 2012, Bayer and Evotec formed a multi-target alliance to develop non-hormonal treatment options for chronic conditions, with a focus on endometriosis. To date, four novel molecules with the potential to provide long-term treatment are progressing through clinical trials.

What is the aim of the non-hormonal endometriosis treatment?

- ✓ Treating pain & inflammation of the chronic disease state
- ✓ Treating the disease without negatively impacting fertility

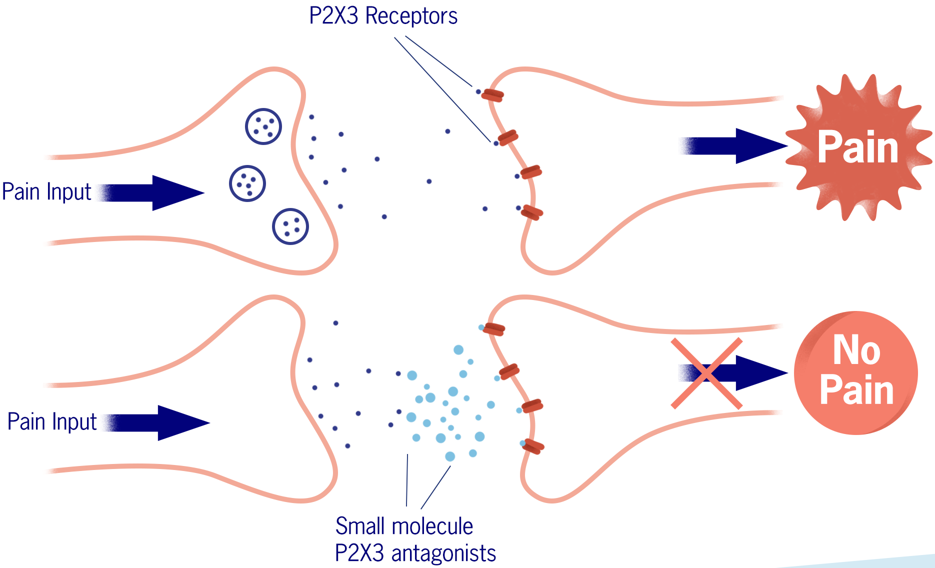
Targeting the P2X3 Receptor as a Potential Therapy

What are P2X3 receptors?

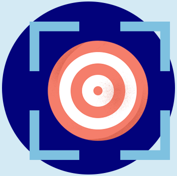
- Pain mediators & inducers of neurogenic inflammation
- Can trigger dysregulated afferent nerve fiber signaling
- Play a crucial role in the development & progression of endometriosis symptoms

Removing the pain

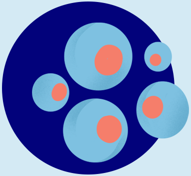
Blocking the P2X3 receptor with a small molecule antagonist may reduce the nerve fiber stimulations that cause painful symptoms



What are other future treatment options for endometriosis?



Identifying novel targets & pathways



Stem cell therapy

Gene therapy

Are you interested in learning more about the Evotec and Bayer alliance and their quest for treating endometriosis? Check out this white paper on their endometriosis collaboration!

Sources

Endometriosis UK
US Department of Health & Human Services
Endometriosis.org
World Endometriosis Research Foundation
Healthline
Bayer Pharmaceuticals - Pipeline Insights

LABIOTECH.eu

evotec