

CREATING BREAKTHROUGH DRUGS  
TO TREAT BRAIN DISEASES AND COMBAT CANCER

# *LRP-1: A Key Receptor for Cancer Cells*

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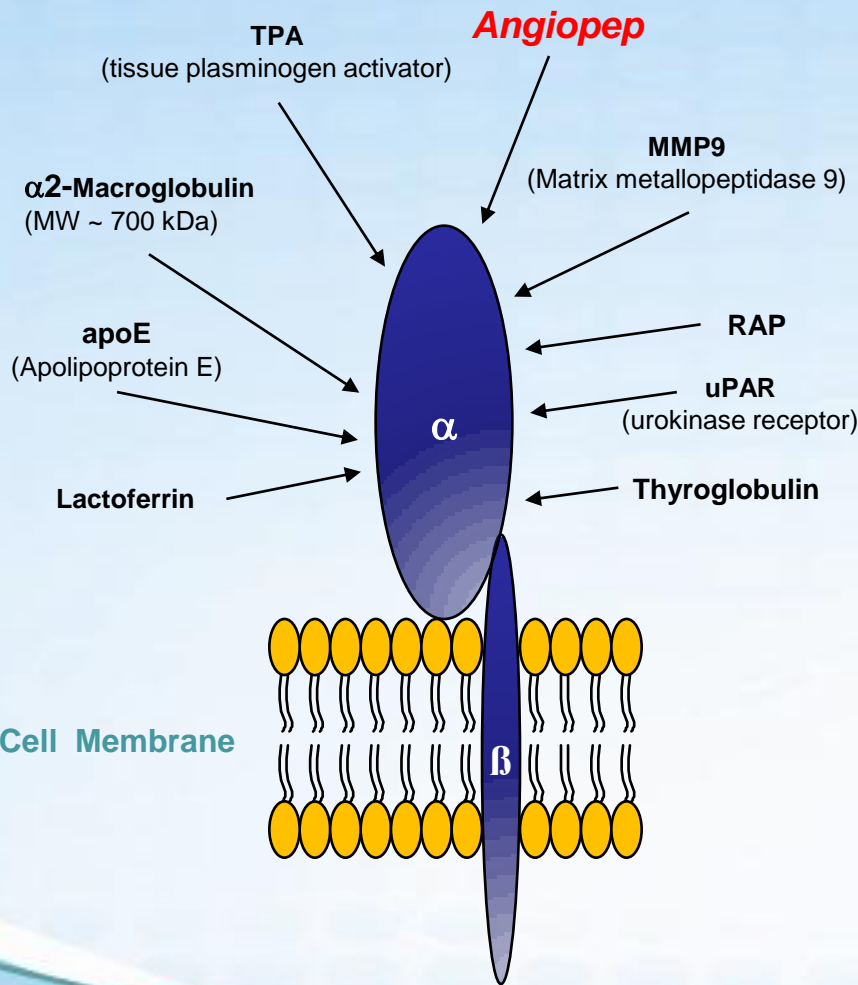
angiochem



## **Angiochem's EPiC platform leverages the LRP-1 mediated pathway**

- This pathway provides:
  - A gateway to the brain through the LRP-1 at the surface of the BBB
  - Direct access to cancer cells expressing LRP-1

**Low-Density Lipoprotein Receptor Related Protein**



- Transports small and large molecules (> 40 ligands)
- One of the most expressed receptors at the surface of the BBB
- Over expressed on cancer cells

**LRP-1: ~600kDa**  
( $\alpha$ :515k,  $\beta$ : 85k )

- Expressed on cancer cells
  - Hypoxia and serum deprivation induces over expression
- LPR-1 is essential for cancer cell proliferation, migration, invasion and dissemination
  - LRP-1 mediated endocytosis maintains cell matrix
  - LRP-1 mediated signalling pathway is responsible for cell de-adhesion and invasion through FAK\*

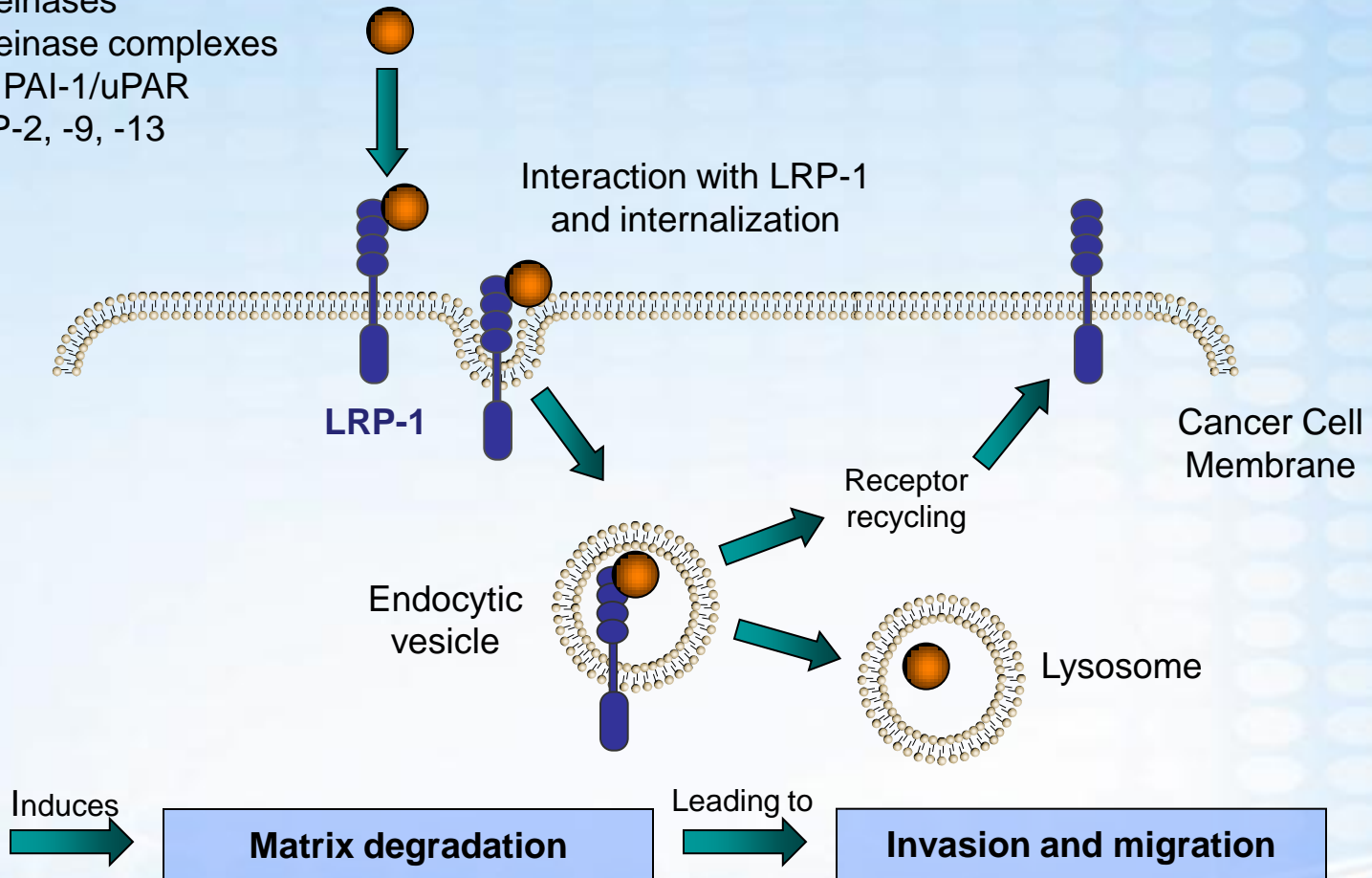
\* Focal Adhesion Kinase



# LRP-1 Mediated Endocytosis

**Ligands:**

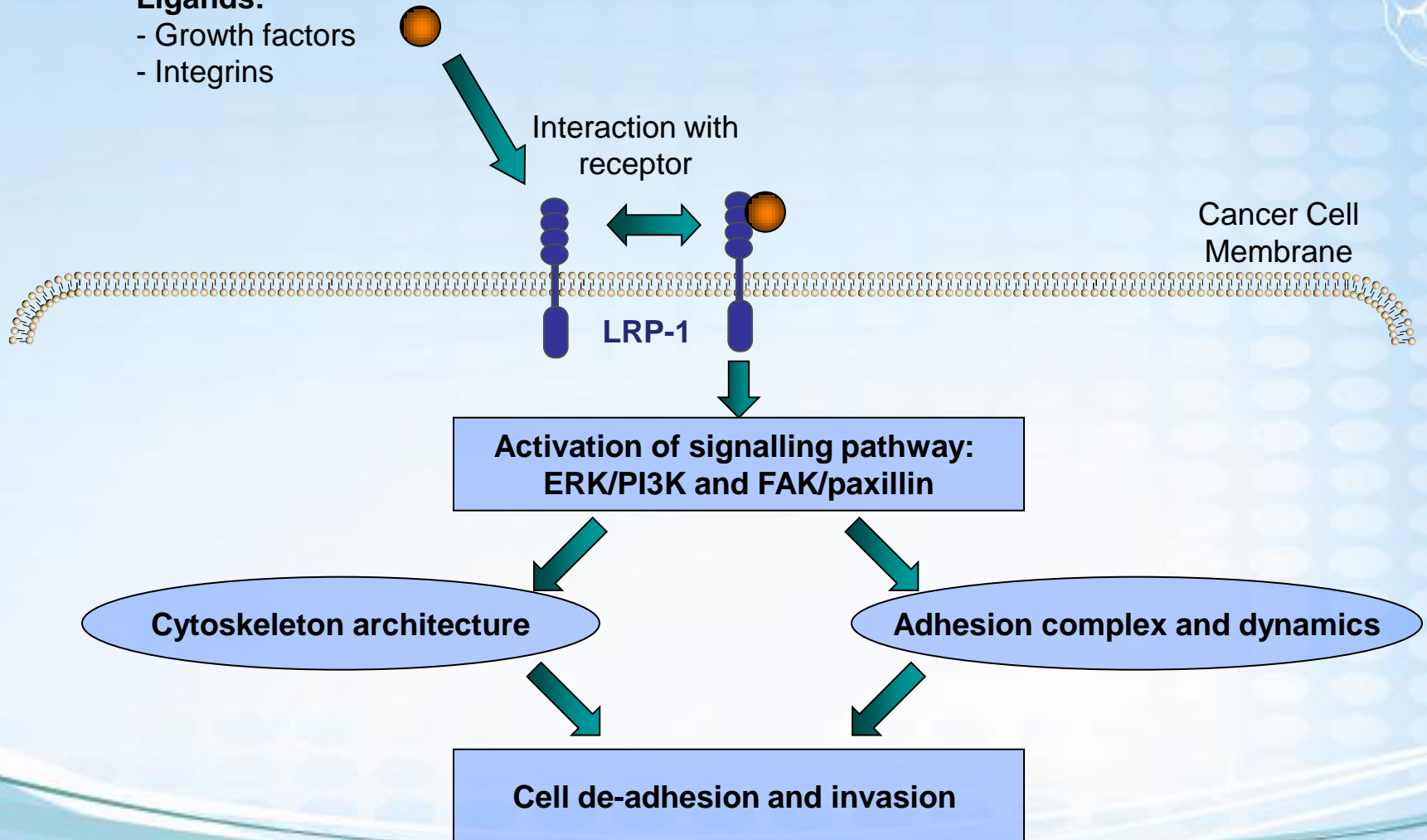
- Proteinases
- Proteinase complexes
- uPA:PAI-1/uPAR
- MMP-2, -9, -13



# LRP-1 Mediated Signalling

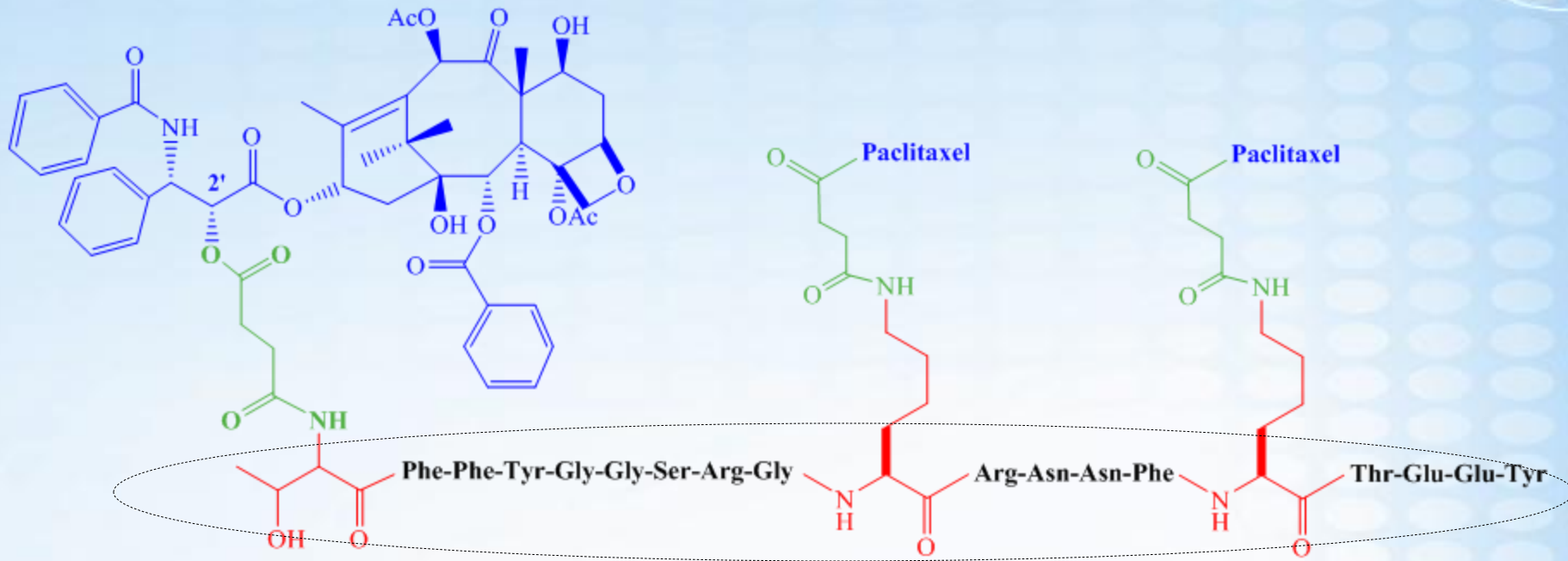
**Ligands:**

- Growth factors
- Integrins



- Identified sequences of amino acids called *Angiopeps* that target LRP-1
  - a library of >100 Angiopeps ranging from 8 to 34 amino acids
- The EPiC technology incorporates an *Angiopep* with a drug moiety to create new chemical entities (NCEs) that:
  - Cross the BBB physiologically and act directly on the brain to treat brain diseases
  - Penetrate cancer cells and release the drug where needed

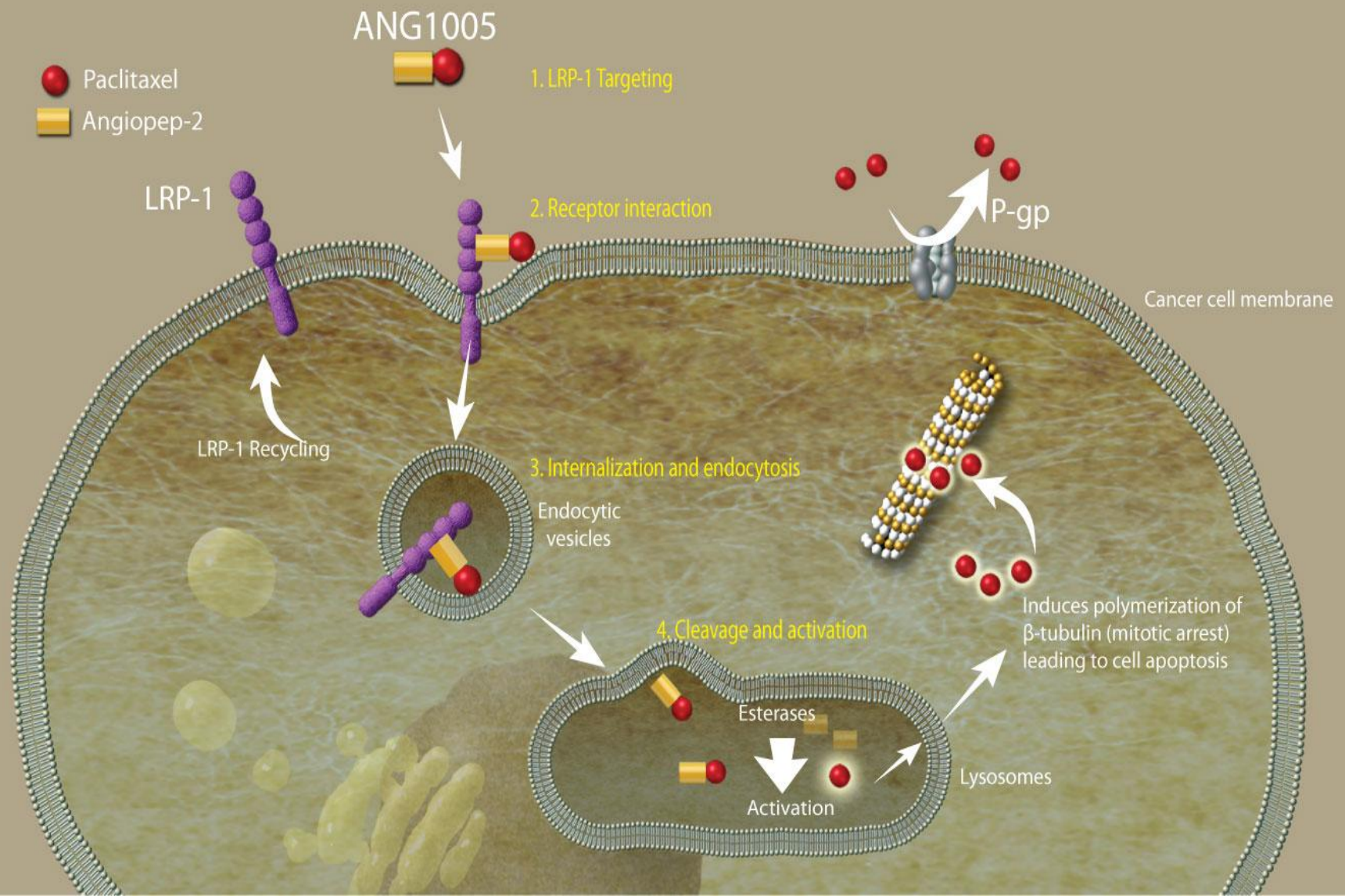
*The first oncology product using the LRP-1 mediated pathway*



**Angiopep-2** Binding site to LRP-1 receptor



# ANG1005 Novel Mechanism: Receptor-Mediated Endocytosis



- **EPIc Platform Validation:**

Clinical data generated with ANG1005 validate the LRP-1 mediated pathway for the treatment of multiple types of cancers

- **ANG1005 Product Validation:**

Targeting cancer cell through the LRP-1 receptor is a novel and innovative way to fight cancer