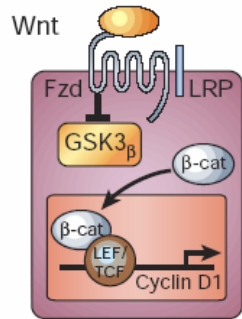


**Wntless/Wls a conserved 7-pass  
membrane protein dedicated to the  
secretion of Wnt proteins**



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# Wnt, stem cells and cancer

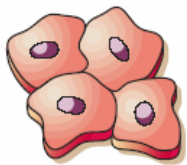


## Stem/progenitor cell self-renewal

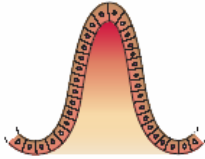
Haematopoietic



Epidermal



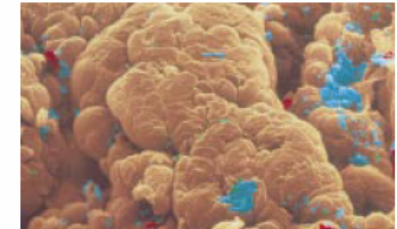
Gut



## Tumorigenesis

Colon carcinoma

Epidermal tumours

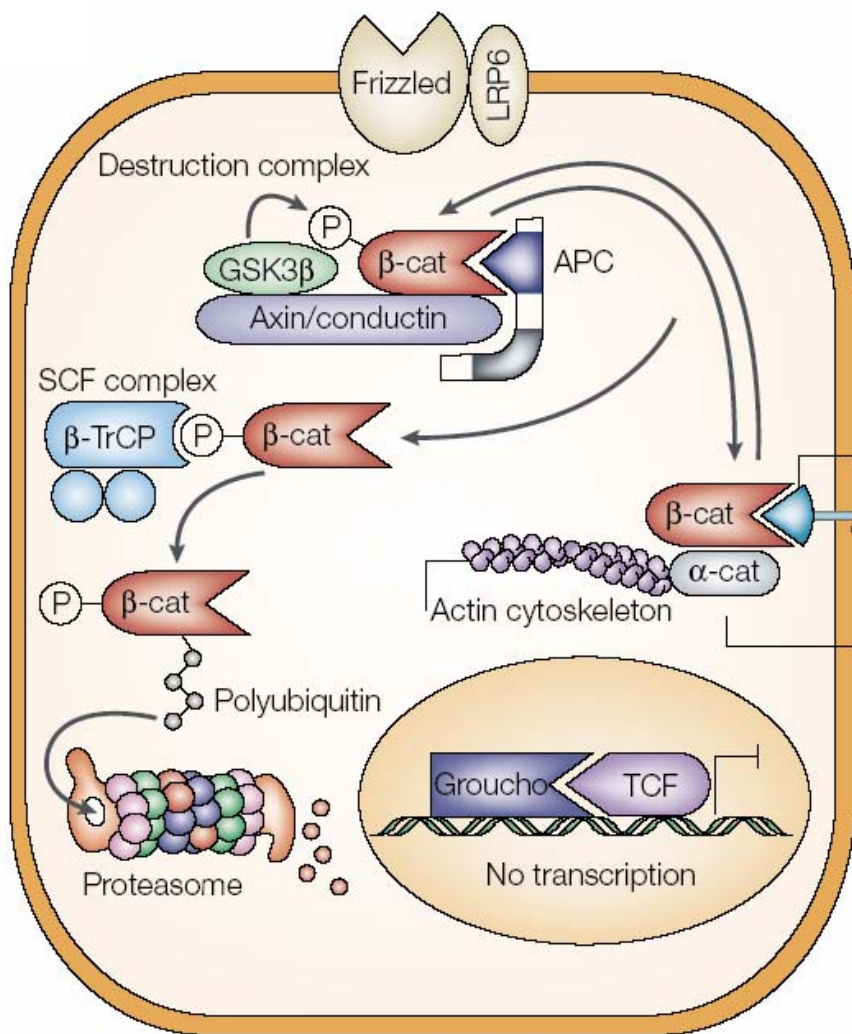


## Signalling pathways, stem cells and cancer

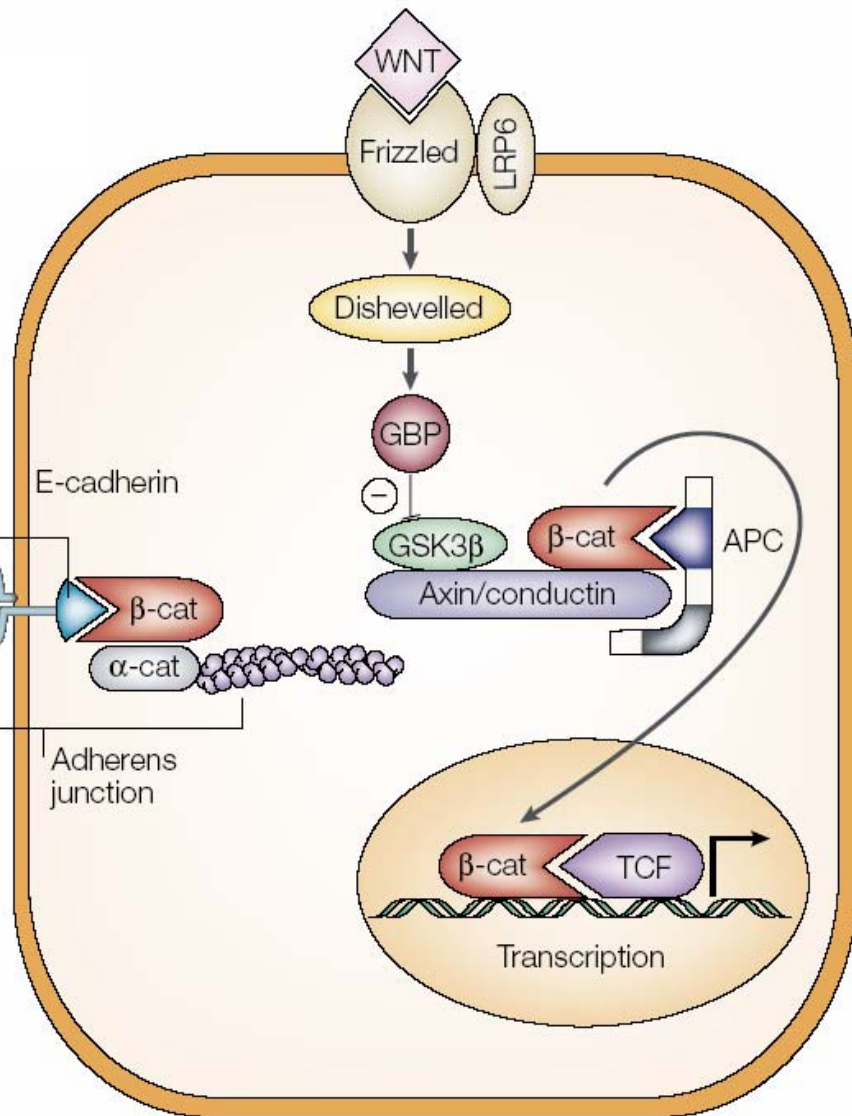
Pathway	Stem cell	Cancer
WNT	Haematopoietic stem cells Intestinal epithelial stem cells Keratinocyte stem cells Cerebellar granule-cell progenitors CNS stem cells	Lymphoblastic leukaemia Colorectal cancer Pilomatricoma Medulloblastoma Gliomas?

# Wnt pathway

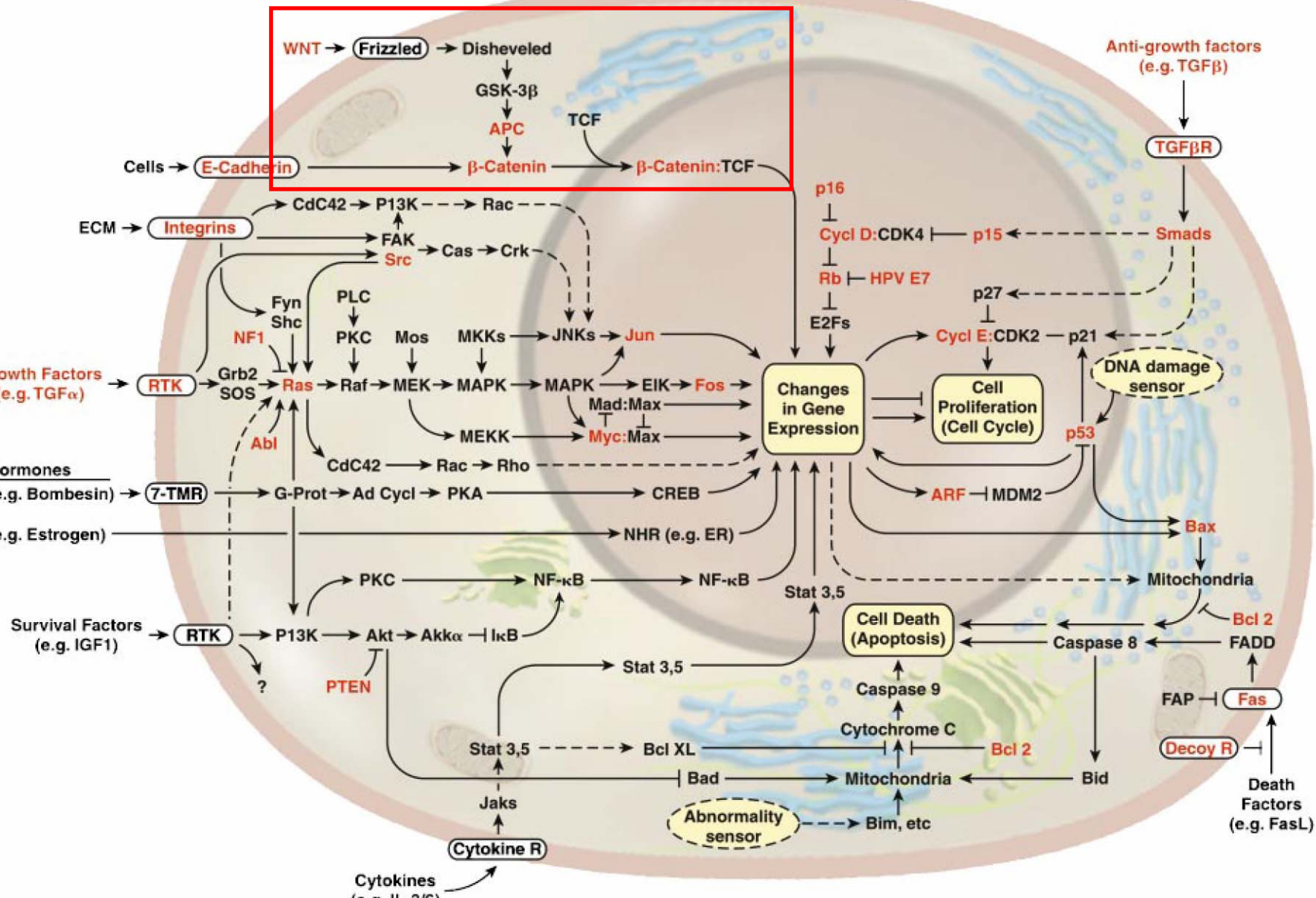
no activation



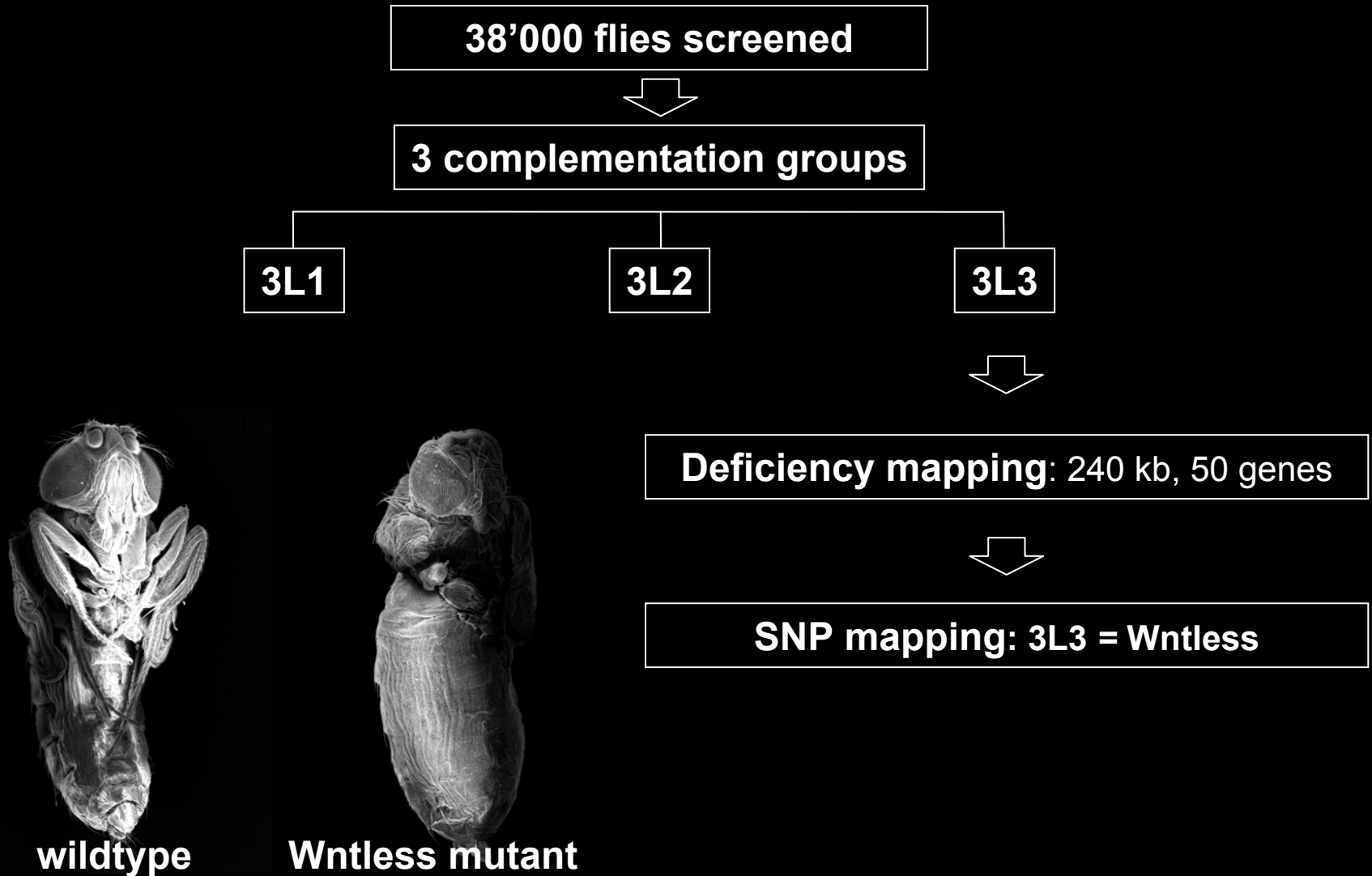
Wnt  $\rightarrow$  on



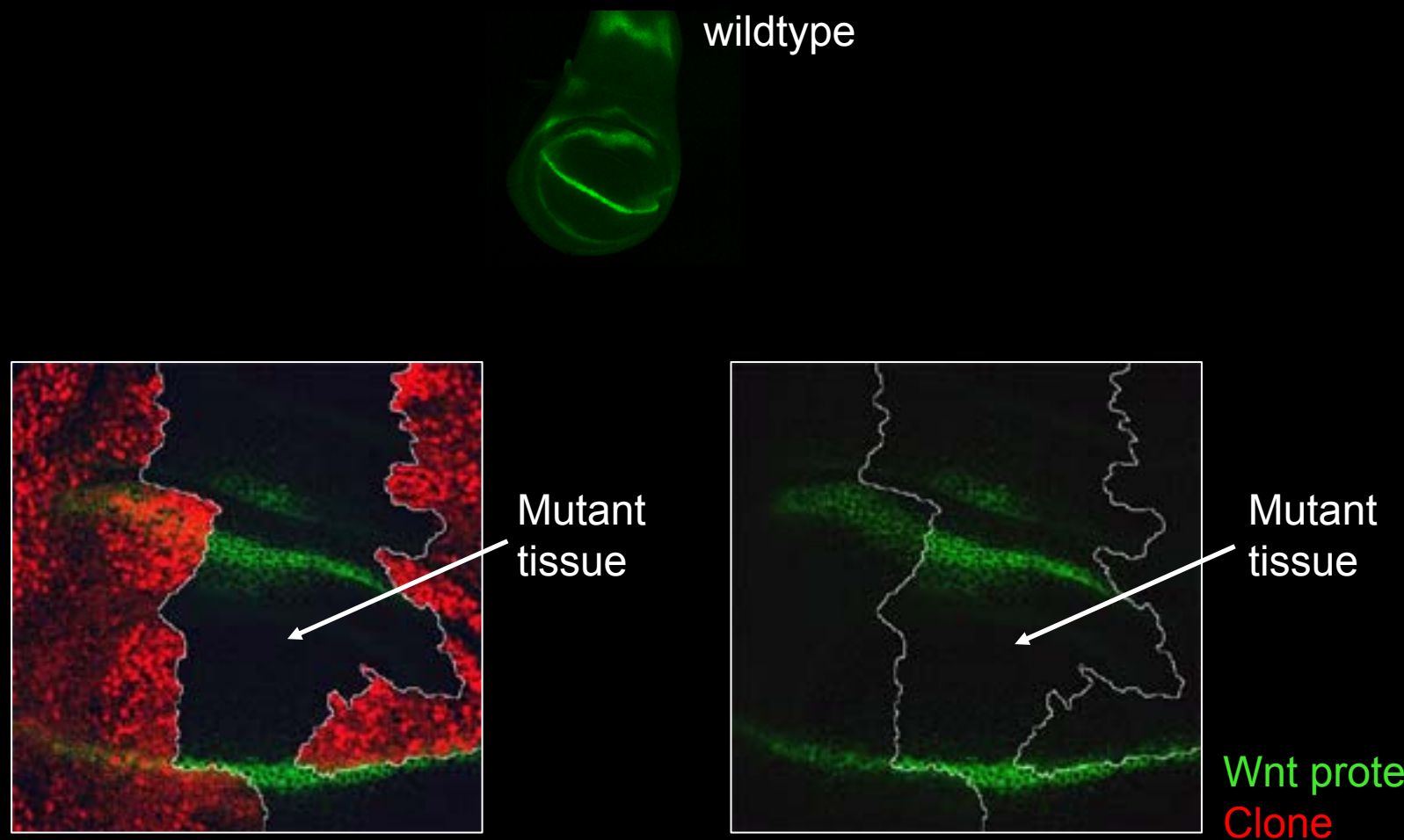
# Wnt pathway in Cancer



# Genetic screen for new components of the Wnt pathway

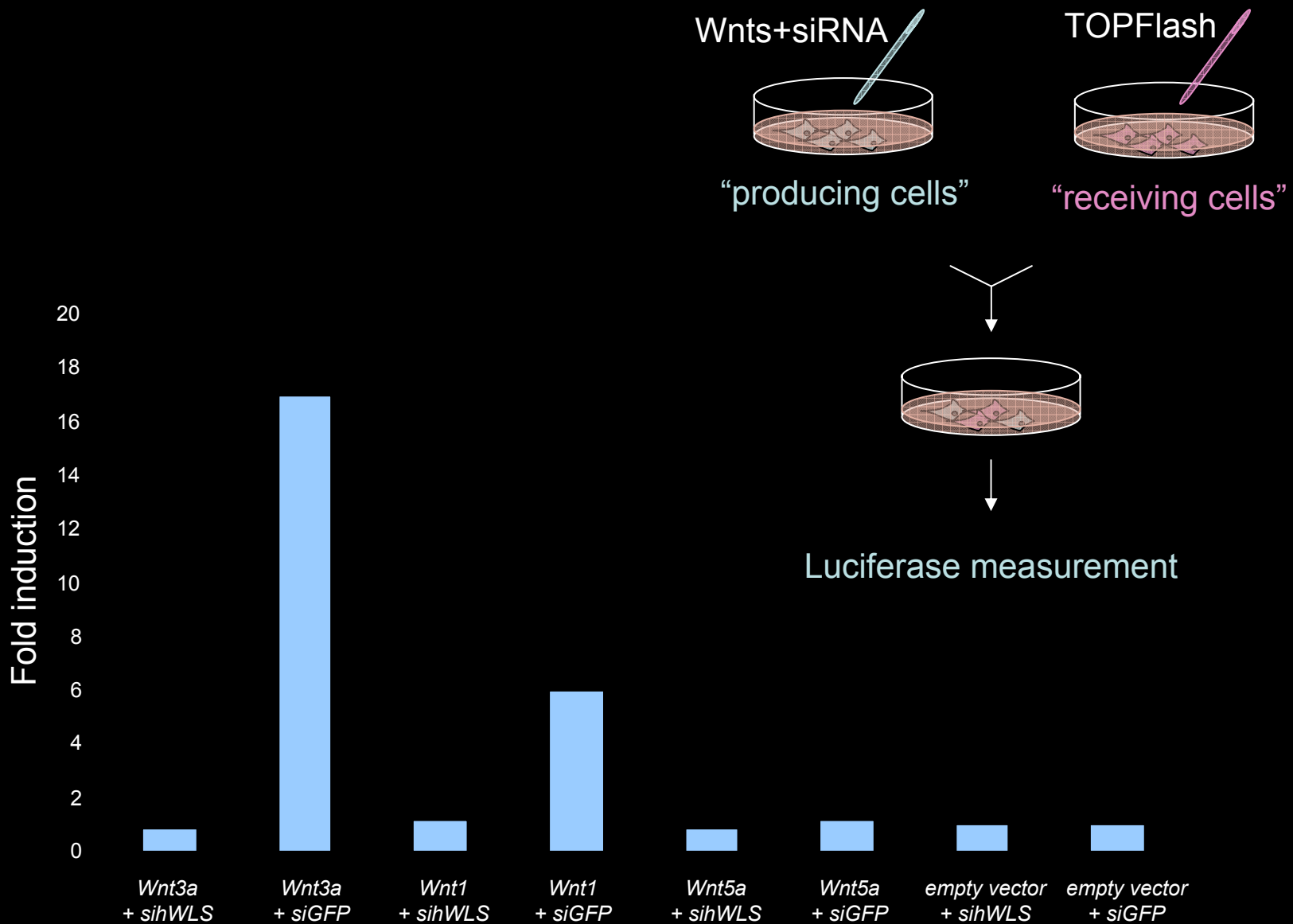


# Wntless is necessary for the secretion of Wnt

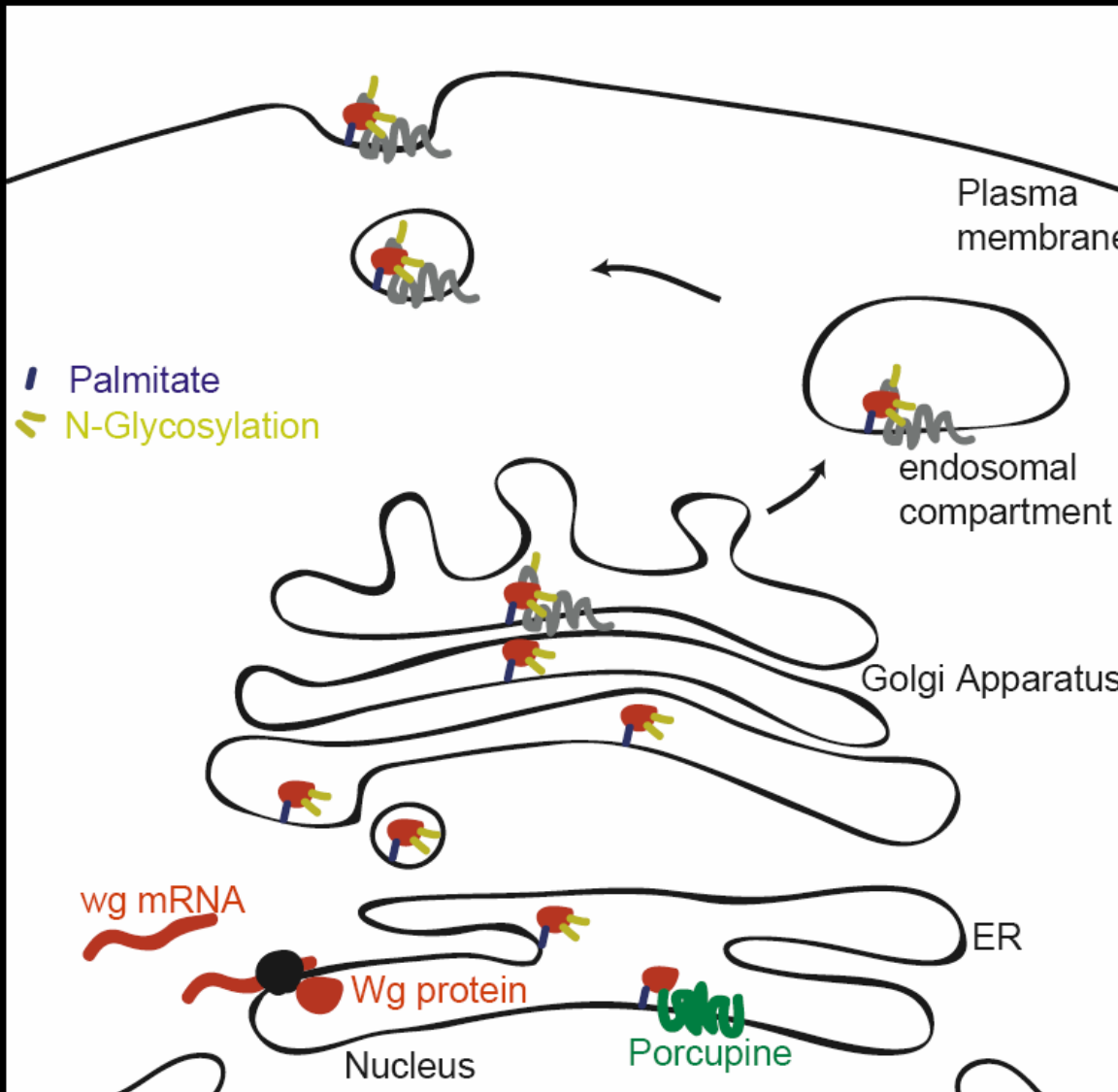


Wnt secretion is impaired in *Wntless* mutant tissue and leads to an accumulation of the Wnt protein

# Wntless is specific for most Wnt proteins



# Function of Wntless in the secretion of Wnt



# Overexpression of Wnt and diseases

Wnt1	Cancer, schizophrenia and rheumatoid arthritis
Wnt2	Cancer
Wnt3	Cancer
Wnt4	Cancer
Wnt5a	Cancer and rheumatoid arthritis
Wnt7b	Cancer

Adopted from Janssens et al. 2006

**Could Wntless be a drug target?**

# Acknowledgments

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