

Wnt Signalling

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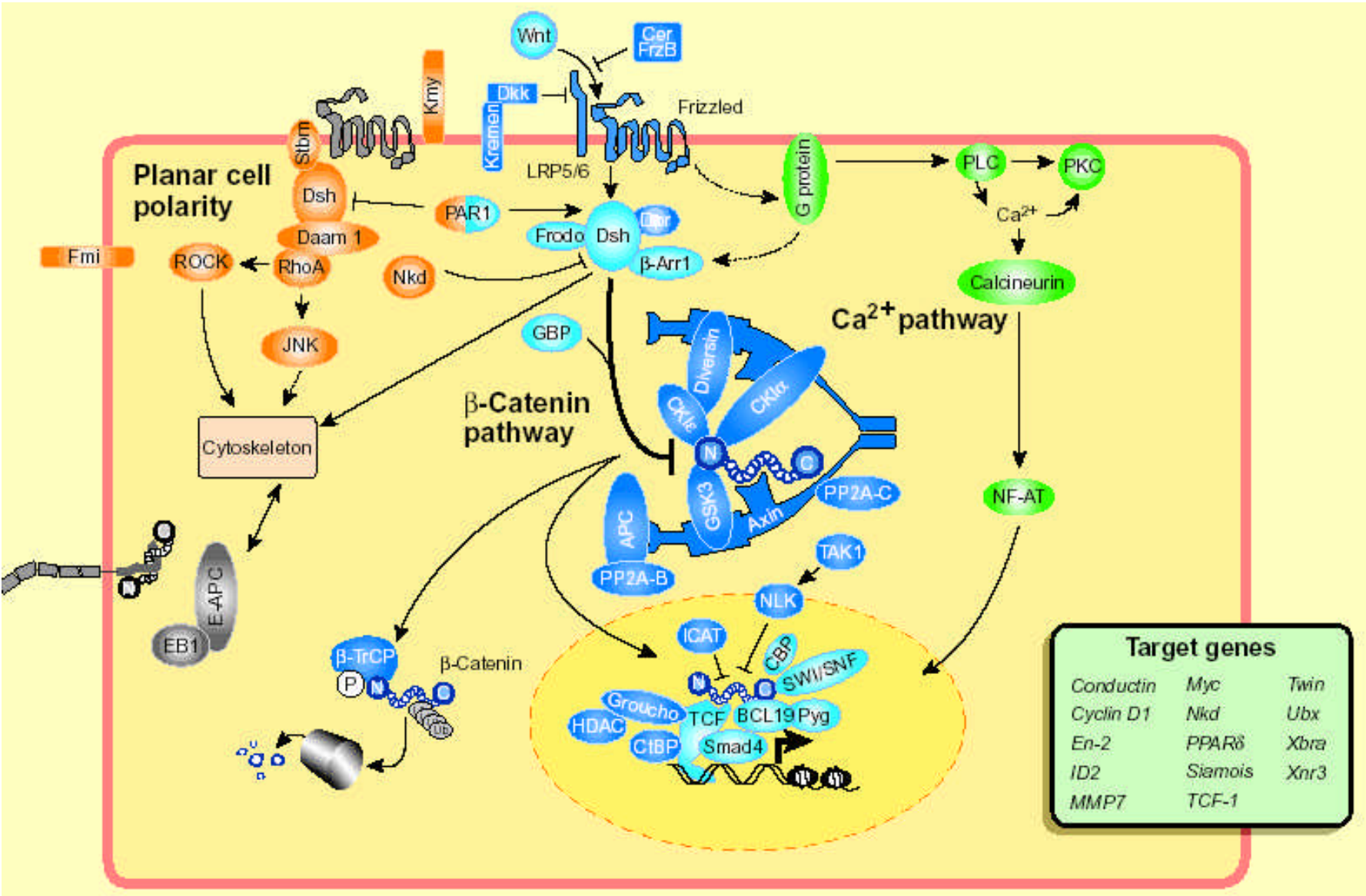
Sandy Kimber

Karianne Fjeld

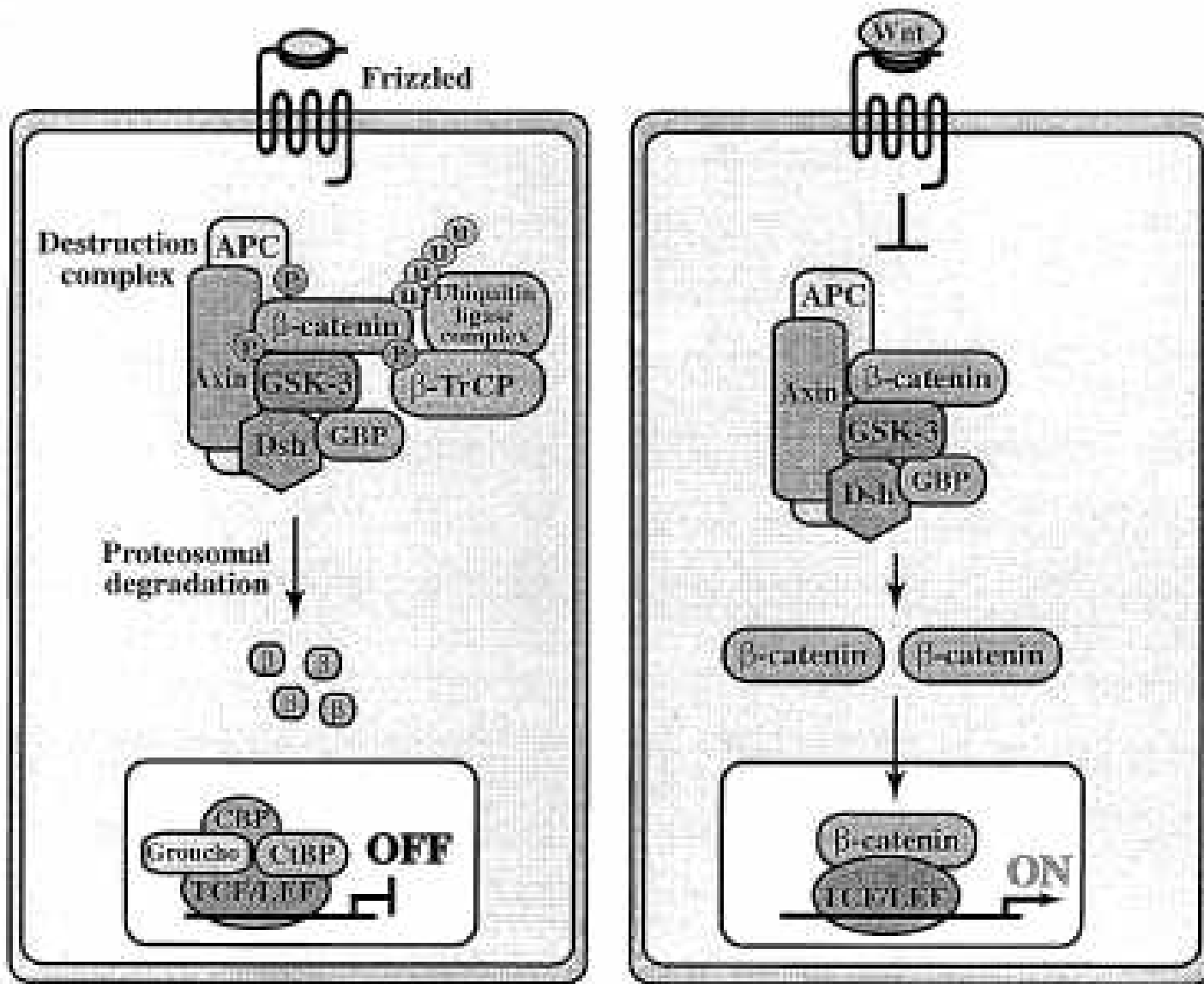
Hong Thi Tran

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Wnt signalling pathways



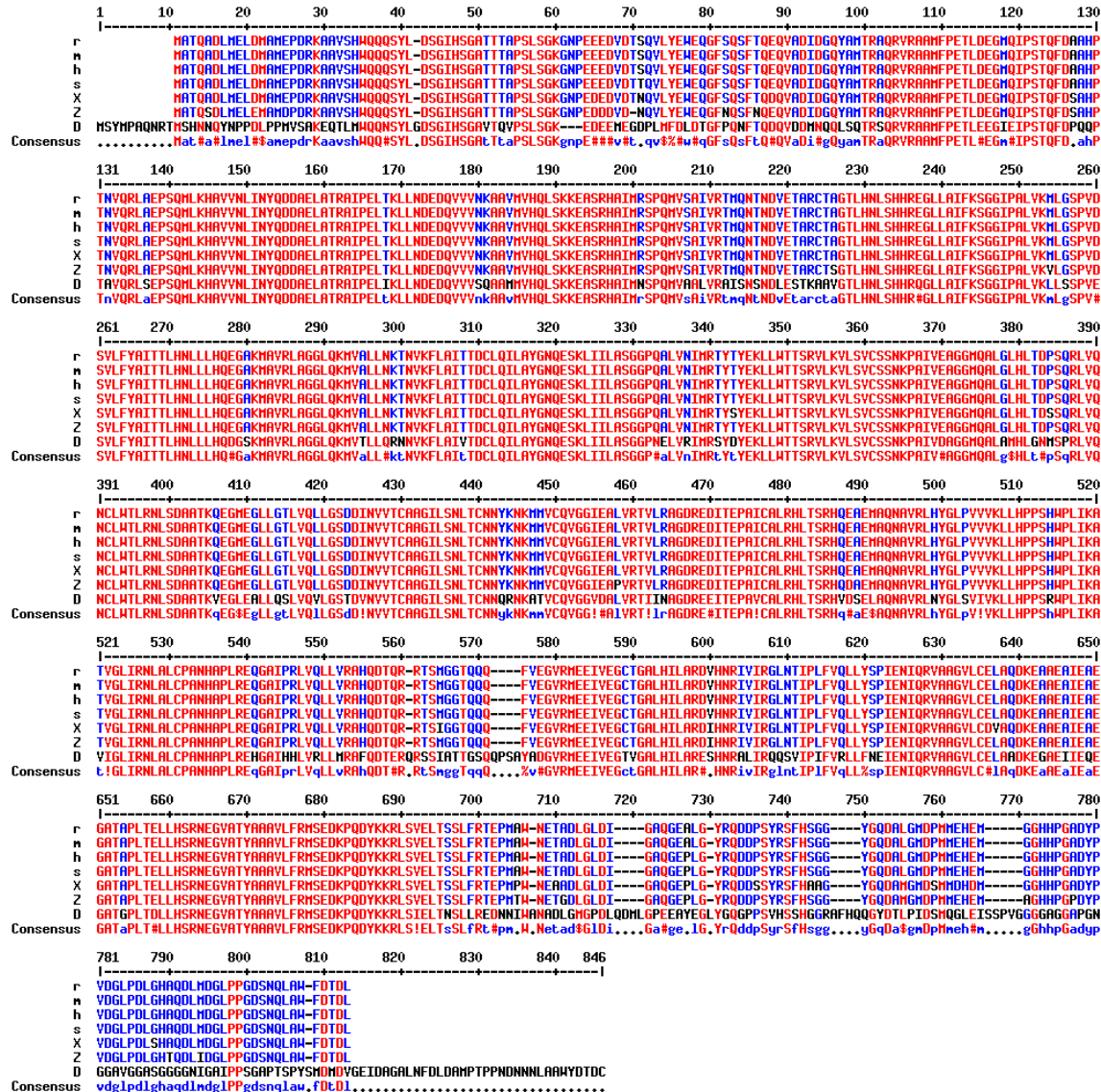
Wnt/ β -catenin Pathway



Wnt absence

Wnt presence

MSA of Beta-Catenin

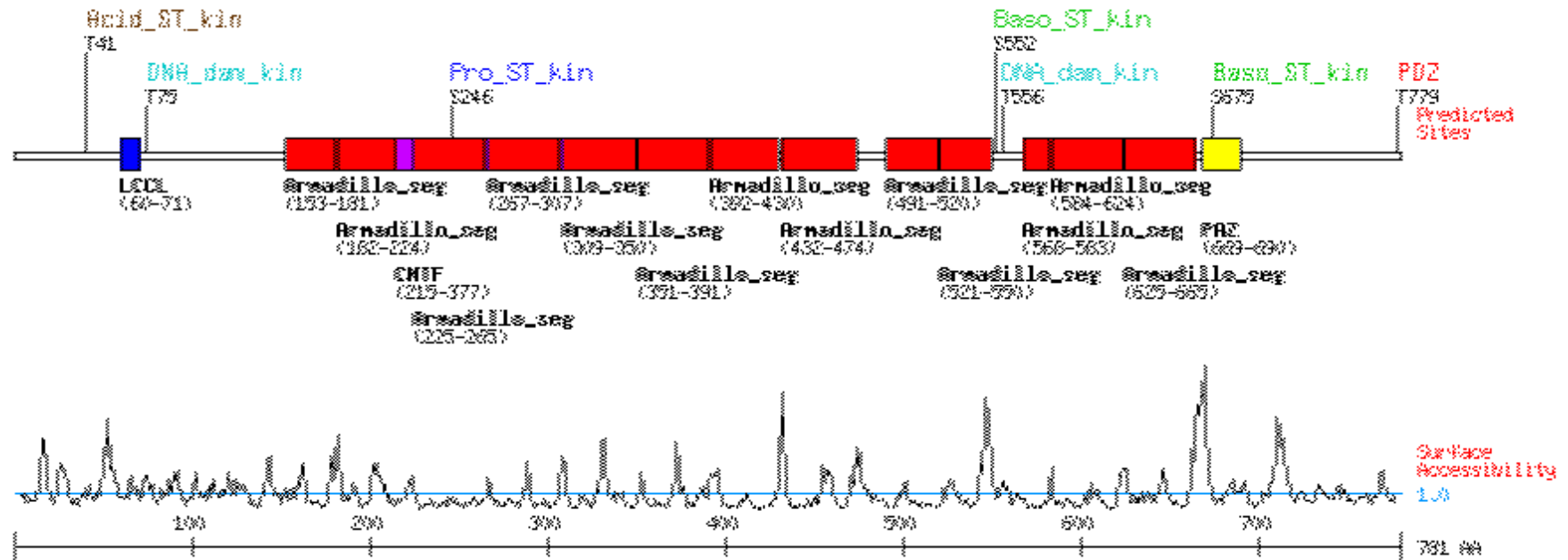


- r Rat
- m Mouse
- h Human
- s Pig
- x Xenopus
- z Zebra Fish
- d Drosophila (most diff)

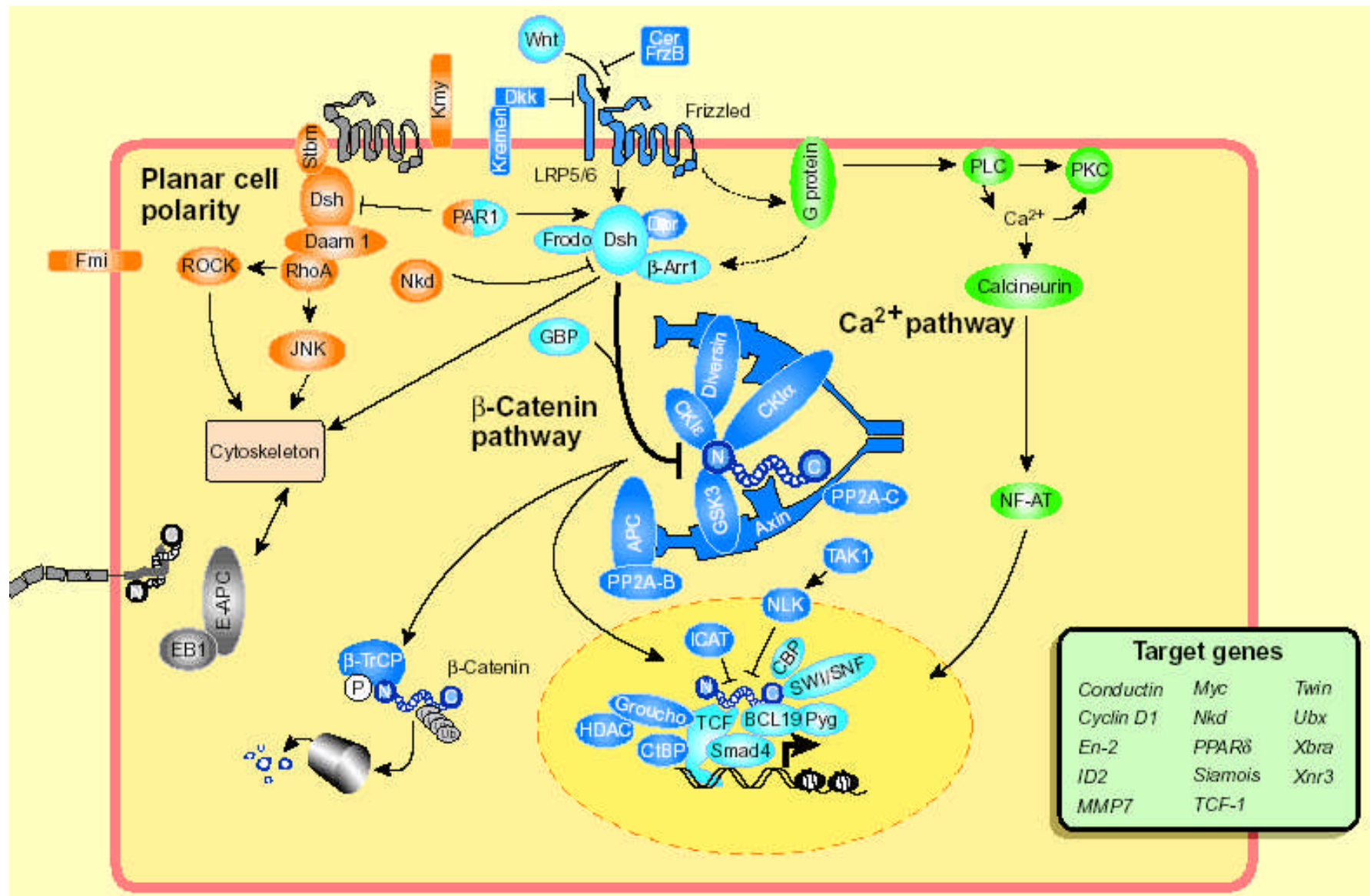
Human Beta Catenin

Searched using the human Protein Sequence

Used Scan Site

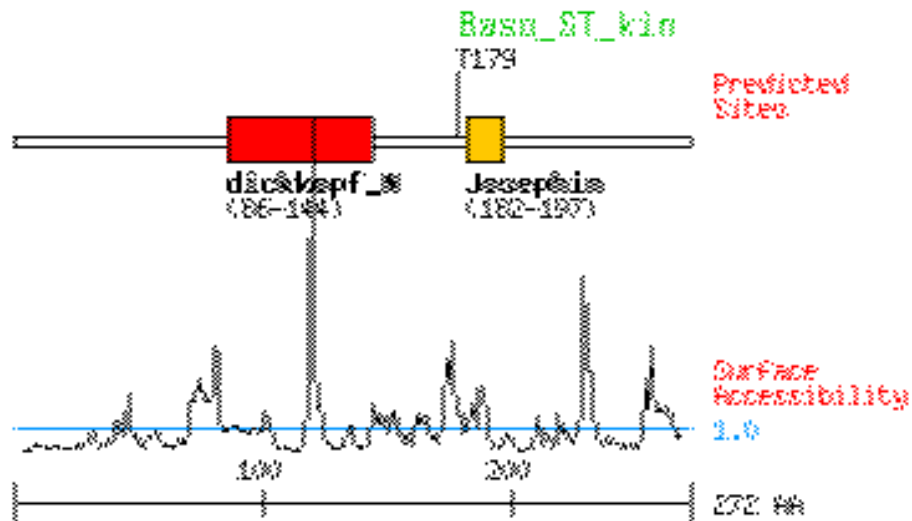


gi|461854|sp|P35222|CTNB_HUMAN Beta-catenin (PRO2286) 2003



Dickkopf Protein in Scan Site

Inhibitor of the wnt signalling – binds to LRP5/6



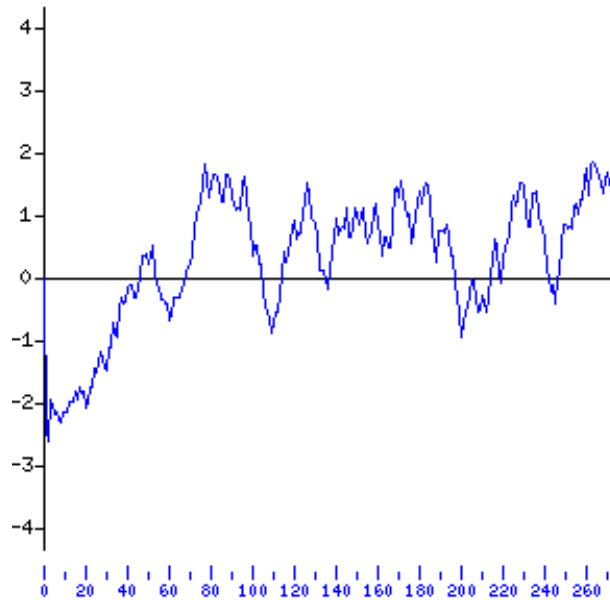
LRP5/6 = Low density lipoprotein related receptor protein

>NP_034181.2 dickkopf homolog 1 [Mus musculus]

JPred Prediction of Protein Structure for Mouse Dikkopf

```
-----HHHHHHHHHHHHHHHHHH---HHHH-HHH-----E-  
MMVVCAAAA VRFLAVFTMMALCSLPLL GASATLNSVLINSNAIKNLPPLGGAGGQPGSAVSVAPGVLYE  
  
-----EE-----EEHHHH--E-----  
GGNKYQTL DNYQPYPCA EDEECGSDEYCSSPSRGAAGVGGVQICLACRKRKRRCMRHAMCCPGNYCKNGI  
  
EE-----HHH-  
CMPSDHSHFPRGEIEESI IENLGN DHNAAAGDGYPRRTTTLTSKIYHTKGQEGSVCLRSSDCAAGLCCARH  
  
-----EEE-----EEE---- : jpred  
FSWKICKPVLKEGQVCTKHKRKGS HGLEIFQRCYCGEGLACRIQKDH HQASNSSRLHTCQRH
```

Using the Kyte-Doolittle method of calculating hydrophilicity – Dickopf protein



Wnt receptor Frizzled 4 (human)

7 transmembrane protein

- using SOSUI

