

DROPLET DIGITAL™ PCR (DDPCR™)

BIO-RAD

A stylized human silhouette in shades of orange and brown is centered in the background. Surrounding it are several DNA double helix icons in blue and purple. A large, semi-transparent question mark is positioned to the right of the main text.

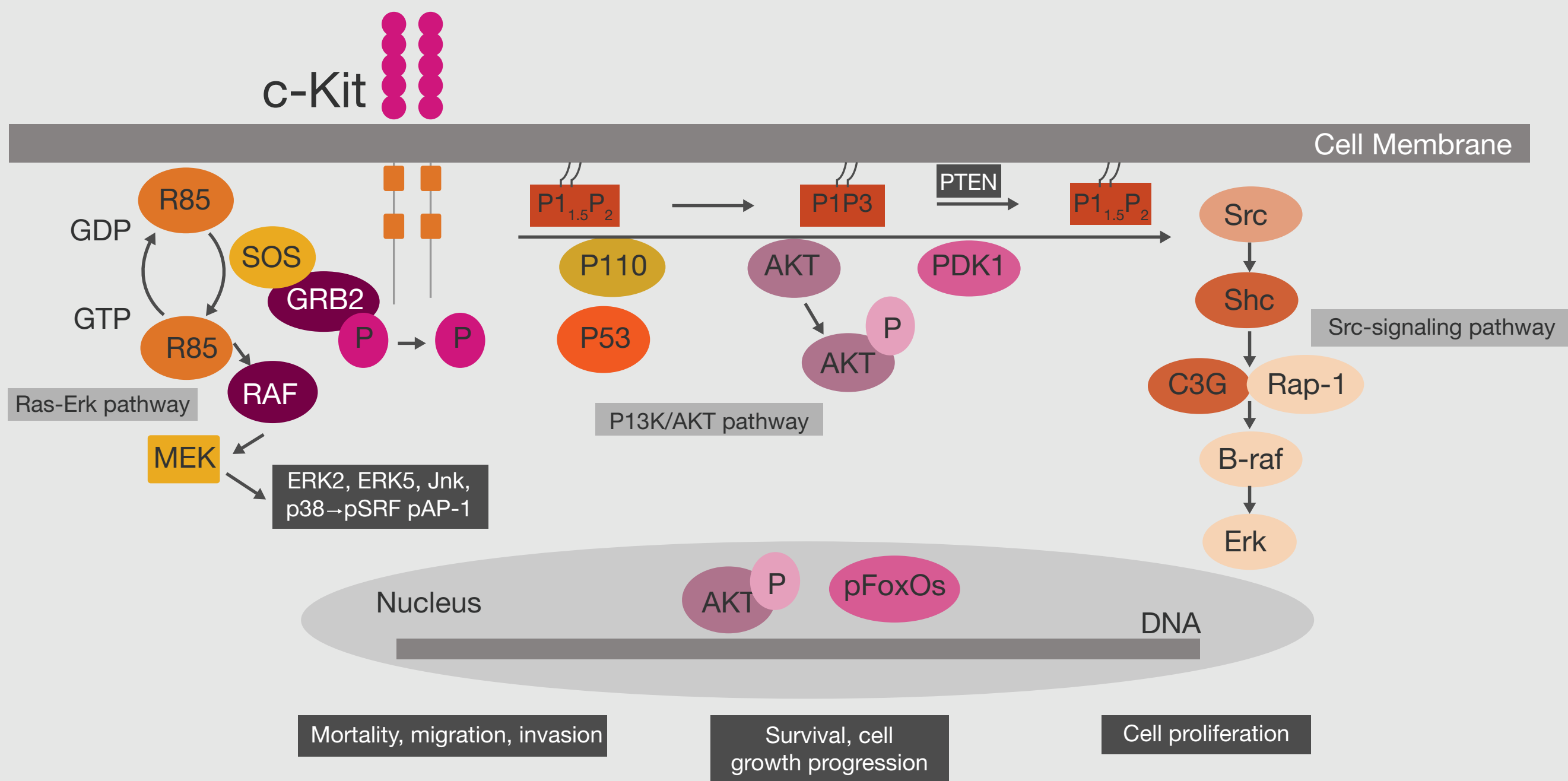
What do you **Gene**?

KIT MOLECULE

The Dog Cancer Indicator

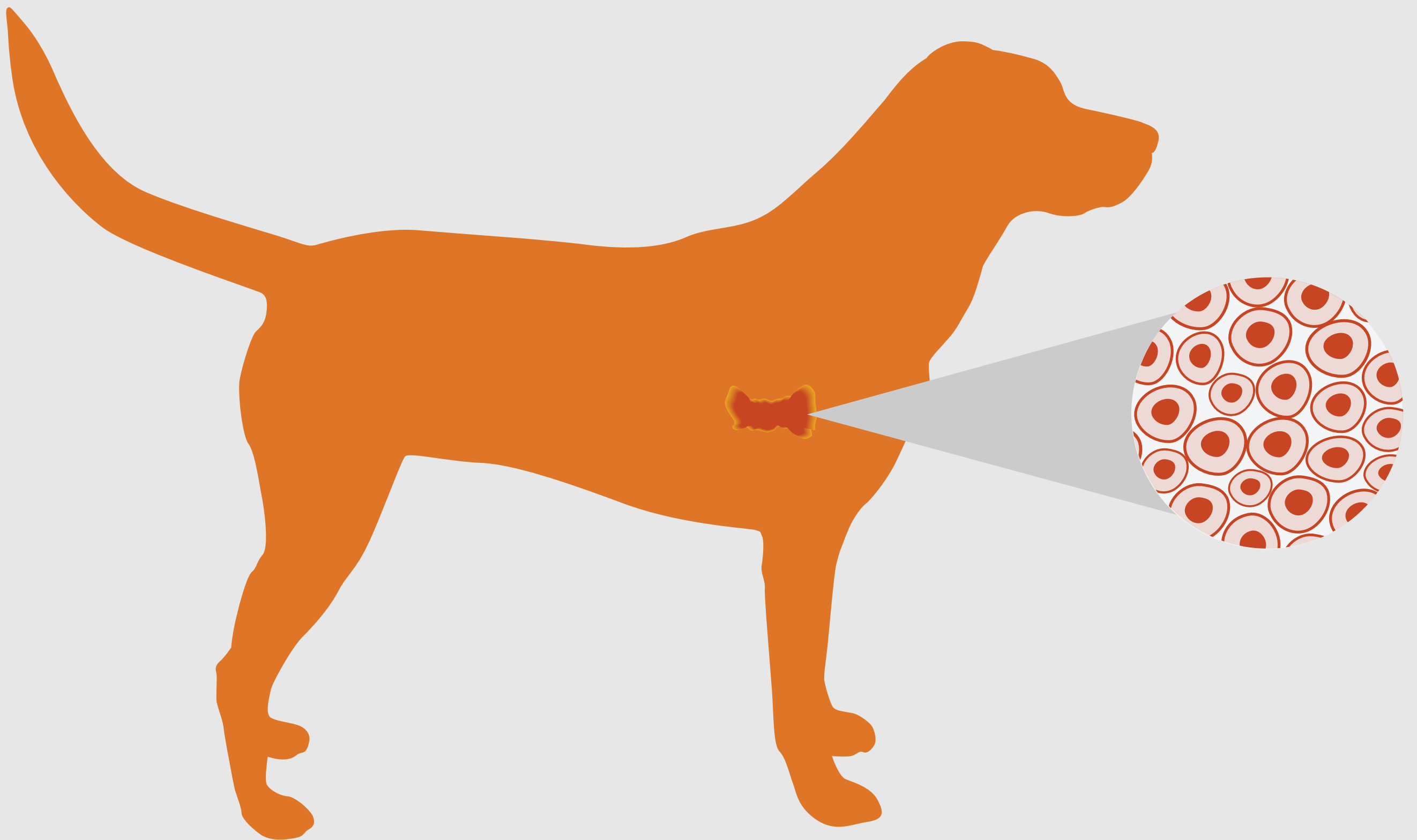
WHAT IS IT?

KIT is a cell surface molecule that controls growth and differentiation. Therefore, *KIT* mutations that alter its function can lead to cancer.



KIT AND DOG SKIN CANCER

Mast cell tumor (MCT) is the most common skin cancer in dogs.



KIT AND DOG SKIN CANCER

20% of MCTs have high levels of mutated *KIT*.



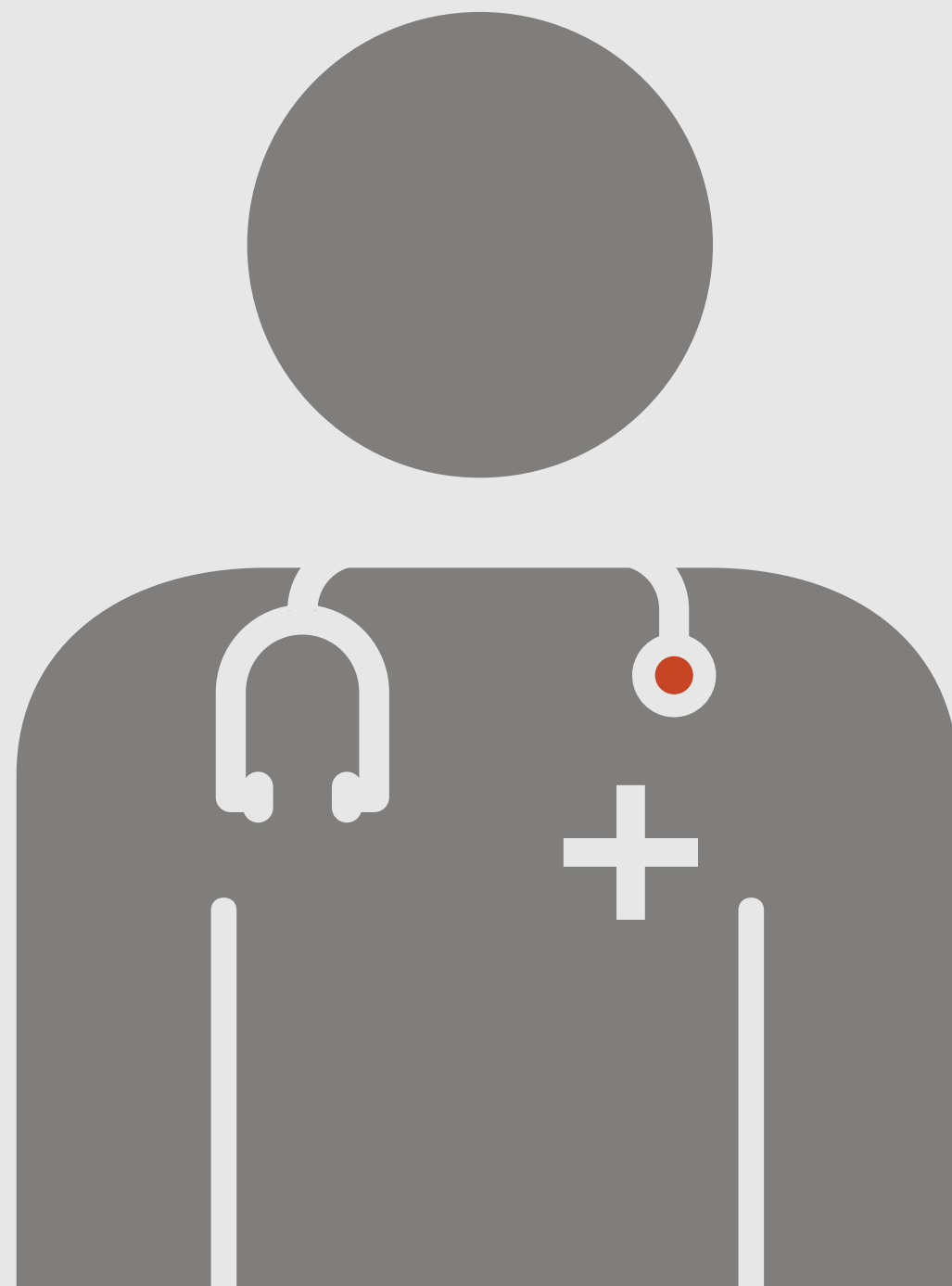
KIT AND DOG SKIN CANCER

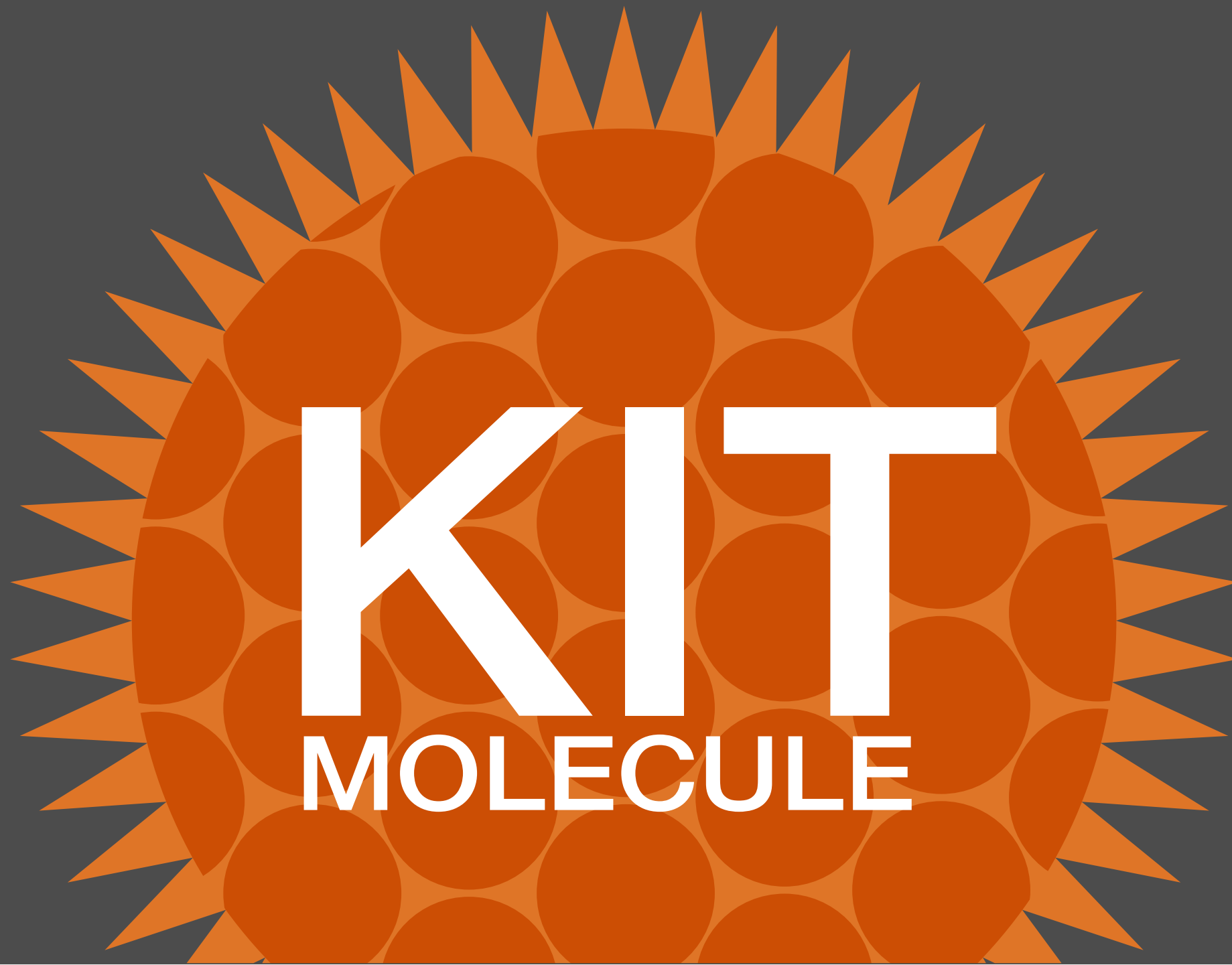
Copy number aberrations are important for maintaining MCTs in dogs.



KIT AND DOG SKIN CANCER

Knowing if there are more copies of a gene in the cell can aid diagnosis and treatment.





DROPLET DIGITAL PCR (ddPCR) AND COPY NUMBER ABERRATIONS

ddPCR counts DNA very precisely so that a small number of cells that have too many copies can be detected.

Visit [bio-rad.com/digital-assays](https://www.bio-rad.com/digital-assays) for more information.
For research use only.

References

Tamlin et al. (2019). Comparative aspects of mast cell neoplasia in animals and the role of KIT in prognosis and treatment. *Vet Med Sci* 6, 3-18.

Mochizuki H et al. (2017). Genomic profiling of canine mast cell tumors identifies DNA copy number aberrations associated with *KIT* mutations and high histological grade. *Chromosome Res* 25, 129–143.

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