Testing the Effects of the BET Inhibitor JQ1 on the Memory of Dardanus calidus

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JQ1 is a drug that is very efficient in killing cancer by blocking the Brd4 signals that tells cancer cells to divide, but the drug is commonly associated with memory loss. Hermit crabs were trained to switch their shell using a short electric shock to stimulate an unpleasant vibration sensation. Sets of three crabs were given 2mg or 1mg of JQ1 and their responses were compared to the responses of non-drugged controls that switched shells. All crabs given the drug reverted back to their original shell upon shock, showing that they forgot the unpleasant experience in their original shell. This shows that JQ1 not only blocks the Brd4 proteins that tell cancer cells to divide, it also causes memory loss in the brain by blocking the Brd4 proteins and neuron signals that transmit and record memories.

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