

**LABORAS™**  
*Let the computer score!*

QUALIFIED  
ALGORITHM

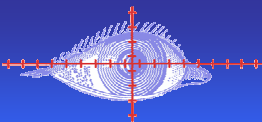
## Wet Dog Shakes in rats



*The LABORAS system*

- ∇ When a rat is shaking its head and body like a dog that comes out of the water the behavior is called **wet dog shake**.
- ∇ Wet dog shakes are part of the natural behavioral repertoire (low frequent), but they can greatly be stimulated by **specific drugs**.
- ∇ Pharmacologically induced wet dog shakes are considered a **stereotyped behavior** (repetitive, high frequency)
- ∇ The induction or antagonism of wet dog shakes provides useful information about the **mechanism of action** of specific drugs.
- ∇ Metris' engineers reached a **correlation of >80%** with observer registered wet dog shakes.

For commercial information please contact [sales@metris.nl](mailto:sales@metris.nl).



### Description of behavior

The wet dog shake behavior (abbreviated to WDS) or sometimes called “whole body shake” is a part of the behavior repertoire of most mammalian species.

The WDS behavior is a paroxysmic or quivering shudder of the trunk (body) up to the shoulders of the rat. The behavior is called after the behavior of a dog when it shudders to get rid of water on its fur. The behavior consists of a series of radial (rotational) movements of the trunk part of the body, during which the trunk rotates about 20 degrees in each direction along the center axis of the body. The quivering shudder seems to roll over the body of the animal from the shoulder to the tail root. Similar to the headshakes behavior the rat often tends to move its body up from its normal position during the WDS reflex.

The duration of a Wet Dog Shake (or WDS reflex) is mostly not taking more than 0.5 seconds in rats.

Depending of the intensity and type of WDS the quivering shudder sometimes extends beyond the shoulder of the animal, including the neck and sometimes the head.

### Context to other behaviors

The behavior often occurs together with headshake behavior and Back Muscle Contractions (BMC) and sometimes also in combination with convulsions (seizures). These behaviors are normally separated in time.

An exception is the combination of WDS and HS behavior which can be highly correlated. When both occur the WDS is always following the HS (not the other way around) with no time in between the two behaviors.

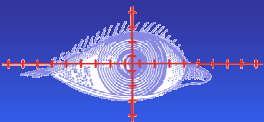
If a WDS is very intense it happens that the two behaviors WDS and HS happen at the same moment in time or overlap in time. In such situations the combined behavior is still considered to be a WDS.

For more information on head shakes refer to the description of headshakes.

### Pharmacological relevance

Wet dog shakes occur both spontaneous as well as induced by external stimuli. The wet dog shakes in rats are evoked in several ways, varying from making the rat wet, to electrical stimulation of the limbic structures and pharmacological interventions.

**Cont'd**



### Cont'd Pharmacological relevance

In laboratory tests the wet dog shake behavior is often induced in rodents using 1-[2,5-dimethoxy-4-iodophenyl]-2-aminopropane, abbreviated to DOI. It's a Hallucinogen that activates 5HT-2 receptors.

It's also known that WDS is strongly increased by the adrenal steroid "Corticosterone" that inhibits sexual behavior.

Novel drugs are being tested on rats that are treated with DOI to investigate for example if the drugs antagonizes the DOI induced wet dog shakes in rats.

Applications are for example the evaluation of potential antipsychotics (against psychosis, schizophrenia, abnormal movements), effect of hormones and drugs on sexual behavior.

### Postural patterns

