

CoraLite[®] Plus 488-conjugated androgen receptor Recombinant antibody

Catalog Number: CL488-81844

Basic Information

Catalog Number: CL488-81844	GenBank Accession Number: BC132975	Purification Method: Protein A purification
Size: 1000 µg/ml	GeneID (NCBI): 367	CloneNo.: 4018
Source: Rabbit	UNIPROT ID: P10275	Recommended Dilutions: IF/ICC 1:50-1:500
Isotype: IgG	Full Name: androgen receptor	Excitation/Emission maxima wavelengths: 493 nm / 522 nm
Immunogen Catalog Number: AG17291	Calculated MW: 914 aa, 99 kDa	
	Observed MW: 110-120 kD	

Applications

Tested Applications: IF/ICC	Positive Controls: IF/ICC : LNCaP cells,
Species Specificity: human	

Background Information

Androgen receptor (AR) is a steroid hormone receptor for androgenic hormones such as 17 β -Hydroxy-3-oxo-4-androstene and DHT. AR plays a vital role in developing and maintaining male sex phenotypes as well as an additional role in regulating bone metabolism.

1. What is the molecular weight of AR? Are there any isoforms of AR?

The molecular weight of full-length androgen receptor (AR-B) is 110 kDa. An additional variant, AR-A, has an 87 kDa size and lacks the N-terminal 187 amino acids of AR-A (PMID: 8108393). Recently, more splice variants of AR have been discovered, raising protein products of around 80 kDa length (PMID: 19244107), as well as an AR45 variant of 45 kDa size (PMID: 15634333). AR splice variants differ in their cell line-specific expression (PMID: 24570075).

2. What is the subcellular localization of AR?

AR can be present in either or both of the cytoplasm and nucleus. In androgen-deprived cells, AR is found predominantly in the cytoplasm, while stimulation by androgens causes enrichment of androgen-bound AR in the nucleus. AR shuttles between the cytoplasm and nucleus and its phosphorylation state has an impact on subcellular localization (PMID: 16282370).

3. Is AR post-translationally modified?

Post-translational modifications of the AR include phosphorylation, acetylation, methylation, SUMOylation, and ubiquitination (PMID: 21820033). These modifications have an impact on receptor stability, activity, and can change the observed molecular weight of the AR.

4. How to study AR signaling in cell culture?

It is important to control levels of cell stimulation while also looking at AR signaling. Fetal bovine serum (FBS) that is typically used in cell culture contains low levels of 17 β -Hydroxy-3-oxo-4-androstene that are enough to stimulate the growth of prostate cells (PMID: 19676093), including the LNCaP cell line that is a commonly used human prostatic carcinoma cell model (PMID: 6831420). One possibility for complete 17 β -Hydroxy-3-oxo-4-androstene deprivation is to use charcoal stripped FBS that removes lipophilic agents, including androgens. It is also not recommended to use phenol red in your medium because it is a weak estrogen (PMID: 3458212). Cell stimulation is often conducted by DHT.

5. What is the role of AR in prostate cancer?

AR plays a key role in the development and physiology of the prostate gland, and also cancer progression (PMID: 15082523). Mutations in AR altering ligands have been observed. The progression of the prostate cancer depends on AR activity and therefore blocking AR activity or lowering androgen levels is a key step related to androgen deprivation therapy (ADT).

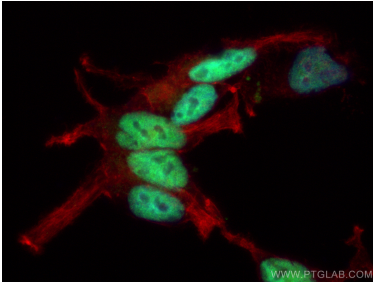
Storage

Storage:
Store at -20°C. Avoid exposure to light. Stable for one year after shipment.

Storage Buffer:
PBS with 50% Glycerol, 0.05% Proclin300, 0.5% BSA, pH 7.3.

Aliquoting is unnecessary for -20°C storage

Selected Validation Data



Immunofluorescent analysis of (4% PFA) fixed LNCaP cells using CoraLite® Plus 488 androgen receptor antibody (CL488-81844, Clone: 4O18) at dilution of 1:200, CL594-Phalloidin (red).